1932

DUCA

PROVISION FOR INDIVIDUAL DIFFE[illegible]
By [illegible]

CHILDREN AS GEOGRAPHERS
By LUCY SPRAGUE MITCHELL

GENERAL IDEAS IN ARITHMETIC
By HARRY G. WHEAT

CREATIVE ACTIVITIES IN THE [illegible] GRADE
By [illegible]

THE OUTLOOK FOR MEASUREMENT
By ALICE [illegible]

SCHOOL DISCIPLINE
By PICKENS E. HARRIS

THE ACTIVITY PROGRAM

I OBJECTIVES AND STA[illegible]
By J[illegible]

II ITS INAUGURATION
By [illegible] SNYDER

III ITS DEVELOPMENT IN A CIRCUL[illegible] SCHOOL
By [illegible]

EDUCATION

EDITOR-IN-CHIEF

HERBERT BLAIR
Professor of School Administration
Boston University School of Education

ASSOCIATE EDITORS

ARITHMETIC
GUY M. WILSON
Professor of Education
Boston University

ART
ROYAL BAILEY FARNUM
Director
Rhode Island School of Design

CIVICS
FRANK REXFORD
Director of Civics
New York City

COMMERCIAL
FREDERICK G. NICHOLS
Professor of Commercial Education
Harvard Univ. School of Education

CREATIVE WRITING
TRENTWELL MASON WHITE
Lecturer in Creative Writing
Breadloaf School of English
Middlebury College

ELEMENTARY EDUCATION
AMY BRONSKY
Assistant Professor of Elementary Education, Ohio State University

ENGLISH
EVERETT C. GETCHELL
Professor of Education
Boston University

EXTRA CURRICULAR ACTIVITIES
EDWARD J. BATON
Professor of Education
Boston University

GEOGRAPHY
DOUGLAS C. RIDGLEY
Professor of Geography in Education
Clark University

GUIDANCE
JESSE B. DAVIS
Professor of Education
Boston University

HISTORY
DANIEL C. KNOWLTON
Professor of Education
New York University

HOME ECONOMICS
GLADYS B. JONES
Director, Garland School of Home Making, Boston

HEALTH EDUCATION
MABEL C. BRAGG
Associate Professor of Education
Boston University

INDUSTRIAL ARTS
ARTHUR B. MAYS
Professor of Industrial Education
University of Illinois

MEASUREMENT
ERNEST W. TIEGS
Dean of University College
University of Southern California

PHYSICAL EDUCATION
FREDERICK RAND ROGERS
Dean of Physical Education and Health
Boston University

PUBLIC RELATIONS
M. R. KEYWORTH
Superintendent of Schools
Hamtramck, Michigan

SCIENCE
LYMAN NEWELL
Professor of Chemistry
Boston University

SECONDARY EDUCATION
FREDERICK M. BOLTON
Professor of Education
University of Washington

SUPERVISION
ERNEST O. MELBY
Professor of Education
Northwestern University

VISUAL EDUCATION
F. DEAN McCLUSKY
President
National Academy of Visual Instruction

VOCATIONAL EDUCATION
LEWIS A. WILSON
Assistant Commissioner for Vocational Education, New York

Address all communications to the office of the publishers

THE PALMER COMPANY, Publishers
[illegible] Boylston Street Boston, Massachusetts

NEWCOMB & GAUSS CO., PRINTERS, SALEM, MASS.

EDUCATION

Vol. LII APRIL, 1932 No. 8

THE REAL SIGNIFICANCE OF PROVISION FOR INDIVIDUAL DIFFERENCES

LAURA ZIRBES

ASSOCIATE PROFESSOR, PRINCIPLES OF EDUCATION AND DIRECTOR OF THE UNIVERSITY ELEMENTARY SCHOOL OHIO STATE UNIVERSITY

Provision for individual differences means far more than the three-track schedule, minimum essentials, or grouping on a basis of the intelligence quotient. Professor Zirbes asks for "individual exploratory experiences in thinking."

NOTWITHSTANDING the prevalence and persistence of mass methods in our schools today, there are numerous and various evidences of a growing realization of the shortcomings of any educational scheme or procedure which fails to take account of individual differences. The realization of the biological basis and the fundamental significance of individual differences for social welfare and human progress seem to have undermined our complacency, but we still seem to be groping and grasping for devicive panaceas, instead of sensing and solving the problem of individual differences in all its vital bearings.

Thus we rush into schemes for homogeneous groupings and reclassification and this becomes an end instead of a means.

By presuming to reduce the range or scope of individual differences in every group to a minimum we really are only setting the situation for more effective *mass* teaching of each so-called homogeneous group. Furthermore, to be consistent in the application of this scheme in the light of available data on the specificity of abilities, we should have to reorganize our groups for each specific aspect of instruction. Homogeneity of intelligence or mental age does not give us optimal homogeneity in particular subject or types of learning. Thus we should be committed to a subject-centered program of the most complex unintegrated sort.

Furthermore, by reducing the differences in classes we also narrow the range of individualities in each working group; we limit children to contacts with those who are as much like themselves as possible. This arrangement seems to provide for the further reduction of individual differences as an inevitable outcome, as though such individual differences were indeed an evil instead of an essential biological factor. How dare we let ourselves embark on any course for the mere sake of instructional facility at the cost of so many other cherished human and social values? Have we not already gone too far in classification,

grading and segregation of groups if we are really seriously concerned with the development of social attitudes and tolerant understandings which will carry over to life outside the school and help to realize the brotherhood of man?

At its best, homogeneous grouping has but slight advantages coupled with serious disadvantages for which it would be hard to compensate. At its worst it is too often responsible for serious feelings of inferiority, superiority and class distinction, which militate against the development of character and the integration of personality.

Too often classification schemes divide children into three levels of capacity and then do next to nothing to differentiate the work of the three levels. For this reason, it would seem to be more advisable and urgent as a first step to plan some differentiation for various levels or types of learners, and to help teachers to deal with the diversity typical of human groups rather than to begin by re-classifying pupils into homogeneous groups for instructional purposes regardless of the consideration that we are thus setting up special forms of grouping which are so inconsistent with typical social units that the opportunities for varied and typical experiences in group relationships are limited rather than facilitated by the school.

The attempt to provide for individual differences has brought about (1) the provision for individual *rates of progress* through a uniform series of cogwheeled operations, (2) breaking of the lock step of mass methods, and (3) the relative isolation of the individual and the substitution of some type of printed or mimeographed material for more personal or social stimulation and guidance in this type of work.

What is good about these three ways of meeting the issue may well be attainable in more than one way. When the unsocial pressure of competitive attainment of individual goals or work units is accepted unquestioningly as good motivation for what would otherwise be so-called individual instruction, under whatever trade name it passes for publicity purposes, we have merely another panacea which has no doubt been helped to achieve a vogue because we are groping for some means of providing for individual differences. When more adequately described, most schemes for individual instruction may be said to desocialize instruction by dissolving the social medium in which concomitant aspects of learning are most normally embodied in order to stress some predetermined sequence of specific steps in skill or fact acquisition. The only individualized aspects of such work are pure drudgery. We must deplore the lack of consideration for intrinsic motives. The assumption that all individuals must of necessity follow one prescribed course in achieving any given goal is obviously mass processing. It robs the learner of individual exploratory experiences in thinking and makes him follow patterned processes where he might well be developing initiative and individuality.

Furthermore, this aggregation of skill and fact learning with a consequent segregation of social learnings severs the vital connection between the need or use of a skill or fact and its acquisition, thus reducing likelihood

of carry-over and creating the problem of re-integrating these two integral aspects of learning or leaving them to dangle and dwindle as separate fragments.

Other schemes for providing for individual differences are: the multiple assignment with its provision for minimal and optimal work, often combined with the enrichment of offerings for bright pupils; irregular or flexible promotion; the organization of flexible ability groups within classes; and the provision for individual remedial work or tutorial coaching.

Another scheme is the application of so-called mastery standards to be achieved by all. In this case the end test or objective becomes the criterion of *learning* mastery, and failure to achieve the desired standard in this test implies the need for more intensive work, and an effort to meet the mastery standard in a subsequent retest.

Many of these schemes have considerable value. The danger implicit in their use is due to the unwarranted assumption that the whole problem of adequate provision for individual differences can be solved by the application of some single formula.

A more psychological approach involves an analysis of the whole range of individual differences in capacity, disposition, physical or physiological traits, emotional life, social and environmental background, family and personal history, special aptitudes, handicaps, interests, habits, experiences, achievements, and appreciations.

A comprehensive study of such differences within a class or preferably in a whole school should be combined with a more specific study of such individual relations with others in his group, with other groups and with individuals of various ages. From this twofold study of the individual in his social contexts a program emerges for guided growth based on individual needs and his social and personal potentiality. To build for breadth and balance without striving to fit every individual into a single mold, to challenge thought and effort, to cherish every sign of potential growth and enlist each individual's appreciation of his personal needs and his social responsibilities, to build self-respect and appreciation of fineness or worth in others becomes the program of provision for individual differences for which the teacher holds herself and every child cooperatively responsible. Any scheme or plan which cuts across this program thereby deletes itself from consideration.

Optimal class size and pupil load should be considered in the light of this conception of teaching as the provision for individual differences in educational progress, growth and personality development. Many other questions of procedure may similarly be referred to this criterion.

Thus the teacher becomes an explorer in the realm of human values. She charts her course on the basis of knowns but realizes that life must be good adventure in which each day brings some unforeseen opportunities for which she must be on the lookout lest she let them pass by due to her preoccupation with lessons or with her diffused vision of the class as a mass.

Here are some of the concrete provisions for individual differences which this implies in practice.

*Ward was tardy again. He will learn to realize the value of promptness if he has a school responsibility or privilege.

Mary will be spoiled by the continuance of that special privilege. She will be helped to be less self-centered if she is permitted to choose someone to succeed her in this particular activity which she considers a privilege.

Fred is so timid about expressing himself, but he did a good job at telling Henry what happened while he was absent. Today there may be a chance to tell him so and give him a little larger opportunity along this line.

Melvin and Ned are both interested in ships. Perhaps they would be more interested in art if they could paint ships instead of spring landscapes.

The little group of very able readers could very well develop a little play together without more than an initial suggestion that this story would make a good play, and that would release time for the little remedial group while the others read their library books.

It will help Fred to give him the responsibility of helping those who need words while they read their library books.

The children in the remedial group will enjoy the play and subsequently they can work up a play from one of their stories. They must not feel that it is a disgrace to be in their group and that will help them to face their need of special work in reading.

In about a week Mary will move out of the remedial group. She has almost outgrown the need of it. She will need help in selecting her first library book for it must not be so hard that it discourages her.

Philip was quite smug about his success. He needs harder work or a chance to help someone.

It is a good thing that I asked whether anyone had another way of solving that problem. Gerald did some fine thinking and explained his way so well that the others learned something from it and they will be encouraged to find original solutions.

Ben was unusually restless toward the end of the morning, and a bit giggly. The reason for it may well be fatigue and rest may be the cure, for he said he was out late with his parents.

There might as well be individual choice of colors for those nature booklet covers, and thus the children will learn to choose. There are three colors available. There could well be individual choices on part of the content too.

It would certainly be foolish to limit all the children to three sentence compositions. John, Harold, Miriam and May could be given free reign and could surprise us with their stories afterward. Most of the others will profit from a preliminary discussion and will then be able to write by themselves with the aid of their personal spelling dictionaries, but those who do not feel up to that can dictate a group story co-operatively and learn a great deal from guidance in doing it.

This new book will interest the boys who were at camp last summer. They may enjoy sharing it orally instead of waiting their turn to read it silently. The others could then ask questions about their own comparable camp experiences.

Bill continues to be rude and grasping with other children. What can be the reason? Have I ever been rude to him? He still feels strange. Perhaps he feels that the children do not like him. Perhaps he is just blustering to cover up fears. He doesn't like to go out to play at recess. That may furnish an explanation.

Marian's writing is so large but it also shows signs of extreme effort and tension, so that it would not be well to suggest reducing the size. It may even be well to let her use a larger, softer pencil and do considerable blackboard writing. The last lines are smaller and positively tremulous with effort, but the story is good. A little praise for the

* Excerpts from a Teacher's Thoughts about Individual Differences.

story will be in order and the writing may come more slowly with proper guidance. Perhaps she has poor vision. That must be investigated. She does get her eyes down close to her paper when she writes.

Lip movements do not seem to be decreasing. Tomorrow it will be one month since the last code record was made of that particular habit. While they read their newspapers, another check-up could readily be made and it will indicate who still needs a silent reminder that his eyes can read without the help of his lips. At least vocalization and finger-pointing are eliminated except for Marian's finger. That seems to point to vision too. Perhaps there's something on her health record card about that. It is surely a case to report on the basis of classroom observations.

These homely concrete illustrations indicate how unceasingly the teacher must concern herself with individual differences. No single fixed formula comprehends the full significance of provision for individual differences.

No mechanical scheme can be substituted for professional intelligence and conscience in this matter which is indeed the crux and measure of effective teaching.

YES

Mrs. Helen Cary Chadwick
MALDEN, MASSACHUSETTS

THEY were seated opposite me in the Elevated, a young couple of the decent working class. The mother bore on her knee a placid baby, enjoying life.

"Don't you think," she queried, eyeing her offspring with pride, "that his new shoes are a pretty color?"

"Oh—yeah," granted the husband, with a satisfied look at the child.

"I wonder," she ventured presently, "if it wouldn't be well to make his cloak the same blue?"

"Er-huh,—sure."

"It's going to cost a bit, Jimmy."

"Yip, go ahead. No tight-waddin'."

"You love him well enough to do it," she murmured playfully, "don't you?"

"Yep."

"Didn't you say," she went on after a glorified pause, "that your mother was going to embroider him a bib for Christmas?"

"Sure thing,—yup."

"I might say to her 'blue'," she dreamed.

He laughed quietly, furtively seeing if they attracted attention. "Yop; do so, Marjorie."

The girl smiled, enjoying the joke. "Well, it's almost time we got to our street."

"Yuh."

"Well, Johnny's been a good kid all the time, hasn't he?"

"Mm-hm."

As they neared the station she rose, gathering up the baby. "Say, let's get a soda at the corner." She giggled. "I ain't had but one since I was married."

"You bet," he returned, with a fond look.

Suddenly she withdrew her meditating eyes from the window, looking at him attentively, and said with energy, "Why don't you say 'yes'?"

CHILDREN AS GEOGRAPHERS

LUCY SPRAGUE MITCHELL
CO-OPERATIVE SCHOOL FOR STUDENT TEACHERS
BUREAU OF EDUCATIONAL EXPERIMENTS, NEW YORK CITY

That geography teaching should be based upon pupil experiences, and that these experiences are sufficient to enable them to understand a wide variety of human relationships, is the text of this very practical article.

GEOGRAPHY, like nearly every other subject, has its purely intellectual side and what, for lack of a better term, may be called its art-play side. For some reason not clear to me, the intellectual aspect has been stressed almost to the exclusion of the rich, dramatic, image-provoking side. The two are not antagonistic,—certainly not with children. On the contrary, one could almost say that, with small children, the strictly intellectual comes only through and after vivid experience and is deepened and clarified through their image recalls in play. At any rate, the two aspects are closely associated in childrens' learning process.

Thinking has sometimes been defined as "seeing relations." Whether or no this is a definition satisfactory to a psychologist, it does well for a teacher. It could well be taken as one of the foundation stones of curriculum building. But only one. This seeing relations, I take it, is the purely intellectual aspect. I should like for the moment, to examine the conventional school geography text book with the attendant class-room teaching, from the point of view of the relations the children are supposed to see; to inquire how significant these relations are geographically; how image-provoking they are and to what extent they jump with the interests of the children who are to see them. Then I should like to reverse the process and try, quite naively, to form a geography program beginning with the geographic relations that children in various stages of maturity discover through living and not through books and which have this image-provoking, art-play aspect. What kind of a curriculum will result?

Ask any unselected group of children who have been through the elementary grades, what comes to their minds at the word "geography" and you will have a fairly good picture of the text-books and class-room practices they have lived through. The first memories to come will probably be of maps with cities and boundaries marked on them, shapes of countries, of states, of lakes, all in hard, contrasting colors. Locational geography, — the space relation almost starkly alone. The images are entirely of symbols, stripped of all resemblance to the real world of the senses, for which the symbols stand.

Second, will probably come a jumble of memories, some with images, some without. Latitudes, longitudes, equator, torrid zone, hemisphere. What relations are these terms standing for? Again, space relations but this time relative to the earth as a sphere.

If there are images adhering, they are images of symbols of ideas which make it easy to locate a definite spot on the globe and which in some cases, are more or less tied up with climate. We are farther, still, from the sensuous earth we live in.

A third kind of memory will be of facts,—all kinds of facts. Mt. Everest is the highest mountain in the world,—that's the reason it is dark red on the maps; the Mississippi is the longest river if you count in the Missouri; the Chinese eat rice, the Eskimo build igloos. Then, thick and fast, — strange-shaped maps of rainfall, queer-colored vegetation, lists of exports, — what were they? Where were they going? The monsoon,— where did it blow and why? What relations did the children see through this mass of facts? Rivers and mountains in terms of superlatives, a few customs in relation to strange peoples. But, for the most part, add floating pieces of information perilously near to isolated facts, dangling for a brief time in a child's mind. Many of the pictures of unfamiliar lands, unknown animals, grotesque clothes and incomprehensible customs fascinate children and do give them a sense of extension, a feeling that the world is full of marvels which it would be fun to go and see. This part of the geography books unquestionably provokes images, albeit some may have little resemblance to verity. It seldom quickens observation or understanding of the familiar world around them. Yet this is all legitimate geography, just as are latitudes and figures of elevation and political maps. I have no quarrel with any of it except as it excludes other geographic thinking and, since it is usually presented first in matter of time, it often precludes forever other and more significant geographic thinking. The relationship-seeing remains pretty thin except as to space and in most classrooms, that means thin except as regards memorizing locations and shapes.

Now, for a moment, let us drop thinking about geography altogether and turn to children who are, after all, living on the surface of the earth which it is geography's business to elucidate. It is one of the eternal wonders that a child, born into a world entirely strange to him, will by his own efforts and through his own interests gradually acquaint himself with its qualities and possibilities; which, I suppose, is merely another way of saying that part of his growth is to see one relation after another. When a baby attends to a sense or motor stimulus, his common response seems to be to follow up this attention by an attempt to explore it with his own fingers. He reaches for it. It may be a crackling paper, it may be a bright spot he afterwards calls the moon, it may be wiggly things he afterwards calls his toes. The point is that, from the beginning, he is an observer and a field worker. It is an early stage of maturity when he is investigating his own body, when he is experimenting with it, learning to balance, to run, to step over a mountainous threshold, to jump. It is an early stage when he is investigating the weight, the hardness of objects, learning that a thing with bright, glinting lights is smooth, that the weight of a block is balanced downwards not sidewise, that when an ob-

ject looks a certain way, it is out of reach. An early stage, yes, but he is seeing relationships. He is thinking. And curiously, these investigations of his are what the grown-ups call his play and are thereby discounted.

Later stages follow fast. He discovers that the same object looks big and black and shiny, feels hot, rings a bell, puffs steam, can move out of a station turning its big wheels and is called an engine. More relationships and pretty complex when we come to think of it. Again, when he relives these discoveries of his, letting his images get active in his legs and voice, with crayons or blocks, the grown-ups call it play and refuse to take it seriously.

And so he continues his observations and his field work in the house, in the kitchen, in the stores, on the street, until he arrives at school at three, four, five or six years of age and eventually arrives,—usually when about eight years old,—at what the school calls geography. And here I should like to ask two questions. First, is he then allowed to approach geography as an observer and a field worker and to bring back his images into activity by art-play? Second, are none of the relationships he has been discovering geographic, and is none of his active imaging geographic?

I should be content to rest the case on these two questions and bid anyone Godspeed.. who would attempt to work out a geography curriculum on the basis of the answers. Obviously, each curriculum, in the early years, would be local. For the children would have been field workers in different environments and would, consequently, have discovered different relationships. Obviously, too, there would be something in common among the different curricula. For children's powers of observation, their kinds of interests, their ability to draw a generalization from a number of separate experiences, their elaboration of their art-play, image recalls, all proceed towards maturity through fairly regular stages of development. Growth in seeing relations and growth in ability to recall and express past experiences, proceeds in an orderly fashion in spite of the wide variations among individuals. Five-year-olds everywhere, so far as I know them, have something in common as field workers and as artists, something which differentiates them from fours and from sixes. Moreover, the different environments which different children will be exploring through their own living will have elements in common. All the children will be members of a larger group. Both as individuals and as group members, they will be getting food by some definite method, they will be living in certain kinds of houses, wearing certain kinds of clothes, using certain kinds of roads. All these things which are the product of human work, constitute an environmental laboratory in which their field work takes place. And the relations which they come to see through their own lives are neither more nor less than human geography. One often reads in courses of study in geography for elementary grades that modern life, particularly city life, is too complex for a young child to understand. Therefore, these syllabi begin human geography with the study of the Eskimo, or life in a Congo village and postpone the in-

vestigation of his own food, the building of the house on the next block, the switching in a railroad terminal "until 5B!"

But from personal experiences, I know that New York City five-year-olds are interested and can "see relationships" in the market horse that brings their vegetables from the market to the store if they are taken to see the horse in action. I know that city six-year-olds can "see relationships" in coal barges, refrigerator cars and bakeries, — relationships which sometimes press towards the realization that the people who live on the crowded island of Manhattan depend for their food upon distant places and even some realization of the work involved in bringing them their food, though the distant places are not located on maps. I know that seven-year-olds can "see relations" not only in the subway construction where they can watch the giant steam shovels chewing away the earth, but in river roads and the Western migration. I have seen them invent the Erie Canal and most of the other great canals of the United States from maps which presented them with land and water conditions so that they imaged the situations which really made men dig those canals. I know that eight-year-olds can see the relations between animal types and kinds of land, climate and other earth forces. I know the children can see these various relations, not merely because they make the correct verbal response but because they precipitate these intellectual conceptions into art-play of their own expression. I have seen children under nine do genuine thinking about such natural forces as tides, rain, temperature, vegetation, rocks and animals as conditioning human activity. Not that the children used these phrases. But they thought these relationships. And I have seen children of twelve attack the problem of distribution in New York City and turn out a plan closely resembling that of the Harbor Commission. At the same age, I have seen their probing of modern European history for geographic causes of friction, result in mature social thinking.

Moreover, I know that space relations, even in the technical geographic sense, are seen and enjoyed if these, too, are expressions of children's own observations and experimentation. Among six-year-olds, floor block play often shows a degree of orientation which amounts to a rough map with the symbols expressed in the block buildings, the streets, the traffic lights, the river and all the work that goes on in houses, street and harbor. I have had one group of eight-year-olds work out with pencils and scissors, all the main map projections from a globe; and few grown-ups have ever seen these relations with clarity. But these eight-year-olds had been field workers in geography for four years. They had been taken on trips which showed the human and to a lesser extent, the physical world-functioning; they had discussed their observations; they had played them in many ways, —they had dramatized, had painted, had written of them. In brief, they had been allowed to approach geography through their active methods of observing and experimenting and had been given a school set-up conducive to a reliving of their geographic experiences through art-play.

Of all the subjects with which an elementary school curriculum deals, geography seems to me to have fared worst. Curious, that it should be so! For I believe that, of all the subjects, it holds most for children of these ages, both as an opportunity for field work and for art-play.

THE IMPORTANCE OF CULTIVATING GENERAL IDEAS IN ARITHMETIC

HARRY G. WHEAT
PROFESSOR OF EDUCATION, MARSHALL COLLEGE
HUNTINGTON, WEST VIRGINIA

Professor Wheat believes that Arithmetic may be taught better by wholes rather than by parts. You will probably find that you agree with him.

UNSUCCESSFUL Analysis. A century and a quarter ago Pestalozzi was engaged in the task of organizing instruction according to the theory of proceeding from the simple to the complex. His procedure was to divide and sub-divide a subject into its minutest parts, and to teach these "simple" parts to his pupils one by one. Thus, in reading, his pupils were expected to learn first letters, then syllables, then words, and so on to phrases and sentences. In writing, his pupils had first to learn to make straight lines, curves, ovals, ellipses, and finally they were expected to combine these various parts of letters into wholes.

We have moved far from the piecemeal type of instruction advocated by Pestalozzi with respect to such subjects as reading and writing. We remain, however, in the Pestalozzian period of meticulous dissection insofar as the subject of arithmetic is concerned. This subject has been analyzed for the pupil into a multitude of combinations, processes, formulas, rules, types of problems, etc., and the pupil is taught each in turn as a separate item of experience. Often, when he has completed the course, he knows only those parts which he can still remember, and they all seem to him as separate and unrelated combinations, processes, formulas, rules, and types of problems. Finally, when his memory for these separate items fails him, he has nothing left to carry into his adult world but the remembrances of a series of meaningless, uninteresting, and unpleasant experiences which his classes in arithmetic seem to have provided for him.

Successful teaching in those classes in which successful results are evident furnishes the strongest possible argument against the time-worn method of artificially breaking a subject into parts and trying to teach the parts piece-meal and without logical and understandable relations. Instead of an artificial analysis with haphazard methods of trying to take the pupil from parts to wholes, successful procedure is that of proceeding from wholes, to parts, to related wholes. Analysis is always necessary for study. Synthesis, which builds the parts into a related and understandable unity, is of paramount importance.

Purpose of Article. This article

will consider some of the phases of the contention that arithmetic is a unified system of ideas, not a multiplicity of details. For the sake of discussion, we shall retain the familiar terms, "process," "situation," "problem," and "problem-solving," though it might well be suggested that a ten-year holiday in the use of these terms would be of great service to the science of arithmetic.

Purposes of "Problem-Solving."[1] In the study of both the process and the situation it is important that each receive abundant illustration from real life and real experiences. The exercises that are offered in courses in arithmetic to illustrate processes and situations go by the common name of "problems." Problems are often called "examples." The word "example" is the more fitting and exact term because "problems" are in reality examples or illustrations of matters which are more important. The real purpose of the "problem" is to illustrate, clarify, and enlarge an idea of procedure or a situation to which the pupil has been giving attention. The real purpose of the "problem" lies in its use as an exercise which gives practice in recognizing an idea or in distinguishing the characteristics of a situation which he has been studying.

The purpose of "problem-solving" in the earlier stages of the learning of arithmetic is to develop an understanding of the meaning and use of such fundamental ideas as addition, subtraction, multiplication, division, and those of fractions, decimals, and percentage. The means is practice in meeting and recognizing the general ideas in a variety of familiar situations. The general idea of percentage, for example, is a constituent of the total situation presented in a "problem" involving percentage. The situation thus must be a familiar one in order that the idea of percentage, which is a part of it, may stand out with sufficient clearness to be recognized.

In the later stages of the learning of arithmetic, after the pupil has come to understand the meaning and use of the ideas, he is able to employ them in furthering an understanding of relatively unfamiliar situations, like savings and investments, insurance, taxation, square measure, etc., which have now become the subjects of special study. The general ideas, which are now sufficiently clear, help the pupil to enlarge his acquaintance with the new situations. In the earlier stages, general ideas are to be developed through consideration of familiar situations which employ them; in the later stages, that is, when the general ideas have been developed, new situations may be studied. The two-fold purpose of the "problem-solving" activity must not be confused.

Attention has been called to the distinction between the earlier and later stages of arithmetic in order not only to impress the point that the "problems" of the former period must be presented in situations that are familiar, but also to indicate the folly of attempting to teach new situations before the general ideas which apply in them have been acquired. In the earlier period emphasis must be upon the development of ideas in order that

1 This topic paraphrases a couple of paragraphs from the writer's chapter on "The Psychology of Arithmetic," which is chapter iv of his book, "The Psychology of the Elementary School," published by Silver, Burdett and Company, Newark, 1931.

important situations which employ these general ideas may be studied in the later period.

Explaining the Processes. The importance of the pupil's understanding of the processes he learns to perform, if he is to be expected to apply them in the study of situations, is generally recognized by teachers. To assist the pupil in his understanding, the teacher usually tries to explain each new process as the pupil comes to it. The effort meets with many failures. Often, instead of helping the pupil, the explanation attempted by the teacher stands out as an extra stumbling block for the pupil.

One criticism of the explanations of the teacher, and those of the book as well, is that they teach the pupil to depend upon the thinking of others rather than upon his own ability to think. When the teacher explains a process, the pupil must attend to it. His scheme of thinking must pattern after the teacher's scheme. He must follow as another leads. His whole attitude must be one of dependence. As a consequence, the pupil is often quite as dependent upon the teacher's thinking and explanations, or upon those of the book, at the end of the course as he was at the beginning. The course in arithmetic thus misses one of its largest and most promising opportunities, namely, the opportunity of guiding the pupil in the direction of intellectual self-reliance and of fostering in him a growing feeling of confidence in the power and certainty of his own mental reactions.

Another criticism of the explanations of the teacher and the book arises out of the fact that the occasion for each explanation is the pupil's difficulty and unfamiliarity with each new process as he comes to it. To the pupil each new process appears new. It thus appears that the new process must be explained in terms of its newness. As a consequence, each new process which at first seems so different is given a different explanation. The teacher and the book thus proceed to provide different explanations for the different processes, forgetful of the fact that the very newness of the explanation often renders it quite as difficult for the immature mind to grasp as the process which is being explained.

The trouble with new explanations for new processes is that the pupil is not encouraged to carry from any one explanation or process any idea that may help him to explain the new process as he comes to it. The pupil is unable to see any connecting link between the different explanations or between the different processes. Each explanation appears to him just as new and strange as the process which seems to need explaining, because the explanation comes too abruptly and without any connection in the pupil's thinking with previous ones.

Moreover, without any connection being made in the pupil's thinking between the various explanations that are given, they often appear to him as contradictory. A case in point is the explanation that the column to the right must be unbroken when adding whole numbers, and that the column to the left must be unbroken when adding decimals; as in adding,

$$\begin{array}{r} 25 \\ 4 \\ 621 \\ \hline \end{array} \quad \text{and} \quad \begin{array}{r} .25 \\ .4 \\ .621 \\ \hline \end{array}$$

, for example. Both

are at fault because they are based upon what the pupil can see with his eyes rather than upon what ideas of relationship may be developing in his mind. Another illustration of contradiction is the explanations that are given of the apparently diminished result when one divides by a whole number and of the apparently increased result when he divides by a fraction. Such explanations are at fault because they are offered as explanations of apparent differences which the pupil can "see," and take no account of the fact that the same idea of procedure appears in each process.

But, it may be urged, let the teacher and the book provide consistent explanations. The answer is that explanations ought not to originate with the teacher and the book, but with the pupil's growing understanding of what he is learning. If he is learning arithmetic, he is learning a science that is consistent and inter-related in all of its parts. Knowing and understanding one thing enables the pupil, if some one will suggest the possibility to him, to make an intelligent attack upon the next process that must be learned. The answer is that if the teacher and the book would rely upon the internal consistency of the subject — the science of number — their explanations, rather the explanations they lead the pupil to make for himself, would be bound to be consistent.

The true criticism of the usual explanation is that it comes from without the pupil's knowledge and experience in number — from the teacher or book, — and not from within the system of ideas, called the science of number, which may be developing in the pupil's mind. There is some truth in the statement that when a pupil needs to have a thing explained he is not helped by an explanation. Instead of explaining, the teacher and the book should endeavor to assist the pupil to explain the new steps he has to learn more and more to himself and thus to rely more and more upon himself.

The Growth of General Ideas. Arithmetic is peculiarly adapted for such an endeavor. The idea of ten and the idea of position, for example, run through it from beginning to end. Even a glimmering of the ideas at the beginning helps the pupil to recognize and rely upon them in the adding and subtracting of two-place numbers. "Carrying" tens in addition, subtraction, and multiplication, and division by two-place numbers give opportunity for employing the ideas. At every step, to and throughout decimals and percentage, the ideas continue to appear. Every step may provide the occasion both of illustrating and extending these ideas in the pupil's mind, and of giving him an opportunity to use what little he may have learned of them in his attack upon new processes to be learned, which at first may seem new, but which he may quickly find are very much like the old.

Related to the ideas of ten and position,—really a part of them,—are the ideas of size and number (whether of parts or of groups). Although these may be most evident in fractions, they may be understood the better if one can discover them running through the whole of arithmetic. And fundamental to the whole of arithmetic are the ideas of combination of unequal and equal groups in addition and mul-

tiplication, respectively, and of separation into unequal and equal groups in subtraction and division, respectively.

The various general ideas which may develop are called by different names and may be distinguished as slightly different each from the other. On the other hand, they all are closely inter-related and are in reality the same general idea of grouping by tens seen from different angles. A glimmering of these ideas, or of the fundamental idea of the group of ten, may be had from the beginning. Every stage of the work may give the pupil increasing opportunity to extend them and to use them in making clear what may seem as new. They may serve to unify what otherwise is a thousand and one separate things to be remembered. They may help the pupil to develop a growing feeling of familiarity with what he is learning and with what is set before him to learn, and a growing feeling of confidence and certainty in his methods of attack upon the new things he has to learn. The constant recurrence of this idea or that,—ten, let us say,—gives a feeling of familiarity and confidence and certainty which is worth many-fold more than any mere skill the pupil may attain, or any satisfaction with correct answers. What little of these central ideas of arithmetic even the dullest pupil may grasp is just so much of an aid in making him into an independent thinker. Once a pupil grasps a meaning or develops an idea, he may be expected to gain an insight into number relations quite independently of the class activities. The meaning, or the idea, is an inner drive which both influences the pupil and gives him power to think for himself. Meanings and ideas are dynamic facts of experience. Moreover, they reflect back upon the experiences from which they grew and give them larger meanings.

THE SIGNIFICANCE OF CREATIVE ACTIVITIES IN THE PRIMARY GRADES

CAROLINE W. BARBOUR
DIRECTOR KINDERGARTEN-PRIMARY DEPARTMENT
STATE TEACHERS COLLEGE, SUPERIOR, WISCONSIN

Miss Barbour presents an ideal for the primary teacher that is far ahead of present-day realization, but that is no excuse for not setting up the ideal as the standard.

THE educational world like the political world is constantly flooded, has always, in fact, been flooded with "words of might," catch-phrases and slogans. Many have had their day, been worn threadbare, and have been either eliminated as better ones took their places, or sublimated and absorbed into the body of principles and procedures of education. Each has had its history, each made its mark, from the "correlation" of subject matter of thirty years ago to today's "centers of interest" in which subject matter is to function; from "formal discipline" to "freedom"; from "motivations" put into the learning processes to "project activity" calling for self-purposing and learning; from the monitorial system of "mass education"

of a century ago, to the present-day concepts of "individualized instruction." They represent ideas finding expression, whether amongst conservatives or experimentalists. At times, they serve to vitalize the work of teaching, or to re-interpret the learning process, and they stir the popular, as well as the professional mind, to interest in or antagonism towards new modes and manners in education.

Whatever the history or the particular value of any of the thousand and one types, there is always the chance of loss of power to the most worthwhile ones, when fashions in education give prominence to them. This danger, somewhat hidden, lies in the use of terms by the unthinking, in the over-popularizing of catch-words, and in the artificiality and insincerity of attitude built up, when "patter," and parrot-like imitations are substituted for thoughtful interpretation and experimental activity.

The latest term in the field in point of popular usage is the term "creative education." We hear it on every side, applied in every possible way;—creative education, the creative teacher, creative materials, creative situations, and creative self-expression.

Creativity is itself a high-sounding "word of might," inspiring in origin and thought-provoking; great enough in significance for philosophers and educators from Plato and Froebel to those of today to ponder upon. The concept, of course, is not new, rather is it a mighty inheritance from the past, out of which was born the Golden Age of Greece, the greatest period of creative activity known to man; and from which, out of the darkness of the Middle Ages, sprang the Renaissance.

The newer significance of the creative idea in modern education, democratic and all inclusive as it is, is that there is the possibility of creative power in all. Not only a Phidias, a Michelangelo, a Dante, a Shakespeare, a Caruso, or a Bernhardt may fulfill his life through creative activity but every normal human being has within him creative possibilities and an urgent need for self-expression. "The artist in Everyman's child is being discovered, not only in the unusual, the gifted, the genius; the lid of restraint is being lifted from the child of the common man in order that he may come to his own best self-fulfillment."[1]

A century ago, Friedrich Froebel wrote: "God created man in his own image, therefore man should create and bring forth like God. His spirit, the spirit of man, should hover over the shapeless and move it that it may take form and shape. This is the deep meaning and purpose of work and industry, of productive and creative activity."[2] Seldom has a more forceful statement of ultimate human ability and need been made.

More modern statements of the idea are made in such terms as:— "the new school assumes that every child is endowed with the capacity to express himself, and that this innate capacity is immensely worth cultivating."[3] The child as maker, artist, dramatist, poet, discoverer of rhythm and composer, is coming into his own at last, for the knowledge is slowly

1 Rugg and Shumaker, "The Child Centered School," p. 63.
2 Education of Man, p. 31.
3 Child Centered School, p. 63.

but surely dawning upon us that the child has sensibilities like antennae, reaching out and quivering in response to beauty together with a consuming desire to act upon those feelings, to give shape and form to the "formless," his inner ideas. This growing recognition that the creative impulse is universal and proceeds from the very heart of life itself, is perhaps the most significant thought today in the education of young children.

According to Dr. Dewey, education is growth,—the growth of capacities and powers within one, and it follows that self-expression, self-activity and creative activity are therefore necessary steps in that unfoldment. The reconstruction of experience, another definition of education, the reshaping by oneself of the learnings and meanings of life, is considered to be, in itself, a creative act.

It behooves us, the teachers of the youngest children, those who come to us freshest to life, most impressionable and responsive to its call, to be ready to meet them and their needs, with imagination and intelligence. That the primary teachers may keep away from stock phrases and meaningless procedures, necessitates constant alertness, wider knowledge, deeper understanding, and a growing wisdom, coupled with real intuition. Any study of present-day principles will show that this new emphasis upon creative activity is the psychological outcome of the study of individual difference in children and the correlative inference as to the uniqueness of personality.

How such development is to be brought about and what series of behaviors are to be emphasized, is the study in which the teachers of the kindergarten and primary grades should be most deeply concerned. In this connection, the analysis of human activities suggested by Dr. Kilpatrick is very significant. "If we conceive activities as ranging on a scale from those performed under dire compulsion, up to those into which one puts one's whole heart, . . . the purposeful act belongs to the upper portions of the scale."[4] Sketch such a ladder-scale and we shall have compulsory and dictated acts, of the child-labor and formal discipline type; imitative non-selective acts, of the "herd" type; self-chosen and self-directed acts of the intelligent following type; and at the top, fully purposeful and creative acts, of the leadership type. Note that in such a scale, the unthinking acts, controlled or compelled from without, are at the lowest levels of behavior, while the qualities which determine the higher levels are increasing degrees of ideational acts, selective, self-initiated, full purposed, and finally creative, the "summum bonum" of human energy and power.

All that is most integrating to personality and to worthy living, is bound up in the training which comes from these higher levels of behavior. Every human being is entitled to live, to have the opportunity to live, to his highest and best capacity. From the earliest years, the urge is felt in the human soul to express, and in expressing, to realize itself. The chief objective of education is this integration of child personality, the development of what the earlier progressives called

4 The Project Method, W. H. Kilpatrick.

"three-fold, all round and harmonious development," in other words, a well-balanced character. Purposeful or creative activity is the chief way of life whereby such integration is made possible, since it releases power, shapes the emotions and calls forth a centrally unifying effort towards achievement. Nothing that can be imposed from without is comparable to the unifying, integrating processes going on within whenever the whole child, mind, body and spirit, is engaged.

We must scrutinize carefully the levels of activity at which teachers and systems tend to keep children. Are these thirty children slavishly conforming to an autocrat, speaking, moving, almost breathing, at his will? Is dictation and the mandate of the teacher their only spur to action? Are all the grades of all the system "getting" character education from nine to nine-fifteen on Monday, Wednesday and Fridays? If so, then only formal and non-thinking responses are possible, and there can be no chance for the growth of individuality. Is imitation of how and what others do and think and feel, their chief spur to action? Then "pattern" following and responses at the level of instinct, rather than at the call of intelligence, will be their normal reaction. Habituation to things as they are done and taught, rather than first-hand experience in finding out how to do and think will be and certainly is, the fatal result of methods only too prevalent in the average schoolroom. "How would you teach children to think," said Rousseau, "when you do all their thinking for them?"

But such methods need no longer prevail. The essential needs for child growth and the essential qualities inherent in the higher levels of behaviors are kindred. Recognizing this principle, the teacher will set about to provide the opportunities for self-effort and self-expression in which lie the promise and the potency of better, more worthy types of behaviors,—for nothing of this sort just happens. It is the fruit of a new and different concept of teaching and learning. "Only by making the most of the thought factors *already active* in the experiences of childhood, is there any promise or warrant for the emergence of superior reflective power at adolescence or at any later period."[5] Substitute "creative impulses" for "thought factors" and "creative" power for "reflective" in Dr. Dewey's statement, and we have the application of the same principle to the need for creative methods in the schoolroom.

Such reasoning leads to two practical considerations; first, the conditioning or setting up of situations, genuinely social, filled with worthwhile child interests, with an atmosphere conducive to the freeing of his powers, and with rich provision for experience. Second, the need for artist-teachers, expert in provision, subtle and sympathetic in responding to individual needs, resourceful in recognizing opportunities (since no longer may they depend upon the manual for inspiration), highly intelligent and able in furthering growth and extending the fields of learning.

[5] How We Think, Dr. John Dewey.

The modern primary school environment is rapidly changing its conditions, becoming more child-like. The needs revealed by the urge for activity become a very significant factor in this change. A freely and informally organized room is an essential condition. Freedom for the development of worthwhile activities, individual and social, calls for wise planning on the part of the teacher. One of the greatest responsibilities of the primary teacher, is consideration of the apportionment of the child's day, the organization of activities to insure the development of desirable habits and attitudes, and to emphasize individual and creative expression.

The time-program takes on new significance as a part of this newer thinking. A study of primary time-programs, such as was made a few years ago by Miss Annie E. Moore,[6] enables one to appreciate the kind, fortunately increasing, in which all requirements of the curriculum are met, but are planned for in such measure and with such setting of conditions that children will have time to grow, time to plan, and time to achieve. "Life does not flow in twenty minute periods," and the progressive teacher, identified with her children's interests, and conscious of their needs, regulates their day accordingly. She becomes truly artistic in being able to balance the practical, routinized demands of the daily program with activities and atmosphere conducive to self-expression.

There is the period, preferably starting the day, in which a variety of activities, individual and group, will be going on. Such a period, more consistently called an "activity period," rather than a "creative" or "self-initiated period," *set in the midst* of the whole day's activity program, gives the keynote to its working out, encourages initiative, sets standards for its achievements. In such an environment, where work and play with their concomitant learnings are going on, creative acts for which no time can be prescribed, are bound to flower forth.

It is enlightening and encouraging to the teacher to realize that artists and psychologists have discovered through their observations that the beginnings of full creative power are clearly discernible in the simplest forms of children's spontaneous actions and feelings; in their manipulation and construction; in their experiment and discovery; in their rhythmic chanting, dancing, dramatization and story-telling; and in their love of color and design. For its beginnings lie right there in these rootlets of spontaneous expression, in what Dr. Rugg happily calls "the flicker of the creative spirit" in young children. The kindergarten-primary teacher then, will watch for these reactions and will seek to utilize them. With a wide variety of educative materials, with rich experiences and excursions, not only into the physical environment, but into the realm of imagination, of reading, poetry, song and picture, she will seek to build up ideas and appreciations, through which these child-like forms of expression will take on greater definition and meaning. Spontaneity is always a good beginning but through guidance it must terminate upon higher levels of thought

6 The Primary School, chapter 2.

and act. Therein lies the art of the teacher.

The art of the teacher! Again is the teacher, particularly the early elementary teacher, called upon to be all things to all children. How may she become an artist-teacher when she has had no training for such? How may she, who has never hewn to a new path, point the way to far horizons and new adventures to her eager children? Arthur Dow says somewhere that creative ability is a divine gift, "the *natural endowment* of every human soul, showing itself first in the form we call appreciation." Appreciations, then, are the natural endowments of us all, and here is where the teacher of young children may develop her powers. She may learn first to appreciate them and to honor all art in recognizing the art expressions of her children. She must learn to regard each child under her care, as unique, and as capable of individual development. She must early realize that the differences in children are quite as important as their likenesses, since in these lie the peculiar powers and aptitudes of the individual. Above all, she must have more faith in child nature, much more, than in the nature of the things which she hopes to teach them.

The artist-teacher needs to be both active and receptive in attitude. She will provide and guide, but she will be discriminating and selective in her appreciation of the tiniest output of creative effort on the part of her children. Does the child speak radiantly, spontaneously, rhythmically? Shall his words fade away, his responses become stilted and his mood thwarted, because the teacher has failed to respond in kind, or has not helped to lead him on to fuller and more satisfying expression? Untimely or unfeeling criticism on the part of the teacher or interference with the idea he is seeking to express, rather than help in the process of working out his idea, has often meant loss of confidence, and the breaking of that iridescent bubble of artistic mood without which no creative expression shows forth.

The teacher whose imagination and appreciations are growing in her effort to meet children's highest needs, will ponder all these things in her heart, and will daily grow in resourcefulness and sympathy in meeting them. Her creative artistry lies right here in methods as free and untrammelled as is the spirit of her thinking. She must be versatile and ingenuous in encouraging the responses which will be "leads" to higher forms of activity. Many methods, not just a few, must be at her fingertips, so to speak, for methods are only means or ways of "helping the child to do with educational value that which he is seeking to do alone." She will avoid that easiest and least educative of methods, dictation, because she will know that always and ever the substitution of an external idea and procedure for an inner idea and self-activity, will stunt or starve out any tendency towards original activity on the part of her children. She will be an excellent provider. Experience, variety of stimulation, opportunity for experiment, practice, guidance, contacts with materials and things, are essential to the growth of ideas and images. Power of expression is the fruit of growth in variety and range

of ideas, whether in speech, drawing, music, or dramatization.

These are some of the many ideals and ideas the forward-looking creative teacher will hold in mind as she plans out her meaningful program for the hours of the days in which she and her children will live together.

A hard task, do you say? Nay, a great task, a labor worthy of the highest that is in us, an opportunity for the best and most inspiring teaching of which we are capable. The artist teacher, working with living materials, building character and personality, has a share in the most remarkable of achievements.

The significance of the idea of creative education in the primary grades is not only that it lays great emphasis upon the unique value of the individual, and the democratic necessity that individuals be brought to their highest levels of appreciation and power, but in the inspiration to greater growth in teaching service that it gives to those who, in the last analysis, are the most effective forces in directing childhood towards sane, wholesome and happy living in the future.

NEXT MONTH "EDUCATION"—CIVICS NUMBER

Frank A. Rexford, Editor, Director of Civics, New York City

PUPIL PARTICIPATION IN SCHOOL GOVERNMENT.....Harold G. Campbell
Deputy and Associate Superintendent of Schools, New York City.

YOUTH TO THE FORE.....David Lawrence
National Chairman of the United States Society.

WHAT THE COLLEGE EXPECTS OF THE HIGH SCHOOL.....Joseph McGoldrick
Department of Public Law and Jurisprudence, Columbia University.

FIELD WORK IN CIVICS.....Mabel Skinner
Chairman, Department of Civics, Washington Irving High School, New York City.

CO-OPERATION IN GOVERNMENT.....Clara A. Molendyk
Brooklyn, N. Y., Borough Chairman, Co-operation in Government, Incorporated.

THE EPHEBIAN SOCIETY OF LOS ANGELES.....Adele Humphrey
Vice-Principal, Los Angeles Polytechnic High School.

NATIONAL SELF-GOVERNMENT COMMITTEE, INC. .....Richard Welling
Chairman of the Committee.

TEACHING PROBLEMS OF DEMOCRACY IN HIGH SCHOOL.....Raymond R. Ammarell
Social Science Department, Barringer High School, Newark, New Jersey.

CIVICS BY THE DALTON PLAN.....Margaret A. Jones
Principal, Brooklyn, N. Y., Industrial High School for Girls.

INTERNATIONAL RELATIONS IN THE CLASSROOM.....Frances A. Thomas

THE PLACE OF GOVERNMENT IN THE SCHOOL CURRICULUM.....Earl Willis Crecraft
University of Akron, Director of American Political Science Association.

THE CIVIC VALUE OF THE NATIONAL ORATORICAL CONTEST.....William M. Halloran
Principal Port Richmond High School, Staten Island, New York.

CITIZENSHIP TRAINING IN THE SCHOOLS.....J. Lynn Barnard
Professor, Political Science, Ursinus College, Collegeville, Pa. Formerly
Director of Social Studies, Pennsylvania Department of Public Instruction.

THE OUTLOOK FOR MEASUREMENT

ALICE KELIHER
YALE UNIVERSITY CLINIC OF CHILD DEVELOPMENT

While we have always had measurement of pupil progress the first so-called standardized test was developed less than twenty-five years ago. Until we can agree upon what we desire to have measured there will always be disagreement regarding the validity of the measuring instruments used.

RECENTLY much has been written condemning homogeneous grouping in principle and practice. More and more, leaders in the field are recognizing and disseminating facts about the ill effects of grouping by intelligence or achievement as measured by standardized tests. With the recognition of the inevitability of departure from such a device and its appropriate withdrawal, new problems as well as issues long side-stepped in the field of measurement arise. The sole concern in this article will be the issue of homogeneous grouping, assuming tacit acceptance of the trend away from it, in order to concentrate on the outlook for measurement.

After any cycle, such as that evidenced by the great vogue for "scientific measurement," comes a period of reconstruction in which individuals take one of three stands; one, emphatic refusal to admit the new with strenuous efforts to reestablish the old by touching it up; two, just as emphatic refusal to retain any of the virtues of the old order with enthusiastic devotion to unsound, supposedly "new" ideas; and three, the stand of the true reconstructionist who searches out the fundamental changes in thought, promotes the needed changes in action, seeing whole the efforts required in all directions. The withdrawal of favor from grouping devices will have, and in many quarters already has had, these typical reactions. The first group has redoubled its efforts to improve the tests and make more effective the administrative details of grouping, refusing to give credence to the increasing supply of evidence in fact and theory against the procedure. The second group has discontinued the use of measurement altogether. United with the second group are those who have never admitted measurement into their schools, those who look to the downfall of the "scientific movement" in education to justify their continued stand. The task is set for the reconstructionist who must make an effort to see clearly what is needed for the reorientation of measurement and the preservation of the truly scientific attitude in education.

That measurement has been so clearly restricted to a few easily defined skills and so closely allied with school classification has served to obscure the significance of measurement itself. This alliance has been strengthened by those research departments of school systems whose sole use of measurement has been the grouping or classification of pupils. In these systems the withdrawal of such grouping logically means the withdrawal of measurement as such. It is in such

1 I have argued this point of view at length elsewhere.

systems that, rather than discard the testing and charting regime, attacks are being made upon minimum, or maximum, or super maximum, or common essentials, differentiated curricula, and differentiated in-service training of teachers. The same alliance has caused the group of dissenters, the second group, to look even more askance upon measurement. The truly scientific connotations of educational measurement must be considered apart from the restricted form of standardized tests which have known such far flung popularity, and separated from the issues which have tethered popular conceptions of measurement to pupil classification.

Measurement is no new concept. Human existence is dependent on the weighing of the results of critical actions. If through innumerable generations man had not paused to measure the effectiveness of alternate activities, civilization would not have advanced. Measurement, construed in its liberal meaning is a term for noticing the results of action. The more systematic and accurate the noting and recording of phenomena, the more "scientific" is the measurement. In a hurry to employ techniques borrowed from other sciences, educators have superimposed "scientific method" without fundamental consideration for the content of educational science. The great, inclusive educational science is the study of *growth*. Educational measurement accordingly is the record of growth increments. Administrator, teacher and learner are all involved in this process of evaluation. Thus, there can be no question, "Shall we measure?" Measurement is inevitable. The questions are, 1. What shall we measure? 2. How shall we measure the what? and 3. How shall we employ measurement to the best educational advantage of all?[2]

That the answers to these three questions are beyond the thinking of one individual, and that an adequate hint of the directions in which to seek the answers are beyond the range of this article must be apparent. The first of these questions asks in essence, "What is education?" This question, "What shall we measure?" can be answered only in terms of those values which are prized for education. The suggestion has already been made that the science of education is primarily the study of growth phenomena. Education itself is growth. Determining the what of education means not the listing of thousands of facts in syllabi, but the charting of the preferred directions in which growth should take place. Obviously the fault in the past has been that the science of education has been confused with the making of check lists for learning by syllabus. If education means more than the acquisition of such skills, if we believe that education should foster growth and development of the whole individual, then we must direct our methods of measuring and evaluating so that we may know whether or not education succeeds in its own purposes.

A common problem in the field is the variance of the educational ideals of the teacher and the administrator. How a teacher who has worked with a clear vision of providing for growth

2 Note that these are logical steps in the thoughtful consideration of any action. A splendid discussion of the philosophic bases of these considerations will be found in "The Relation of Philosophy to Scientific Research," William H. Kilpatrick, Journal of Educational Research, September, 1931.

and happy personality development suffers when the year end brings a battery of reading, word recognition, spelling and arithmetic fact tests to stand as measures of progress for the children under her sponsorship. More often than not she does not object on the ground that such tests are given. A good teacher is interested in knowing about these by-products. Her disappointment is that sole and initial emphasis is given them. She believes, in her educational scheme, that her primary concern should be the development of thoughtful, critical habits of living wisely and richly. She knows, however, that the administration is looking for progress in the measured skills. Such dilemmas must be resolved. The presence of such opposing *whats* in the educational scheme paralyzes the progressive development of education itself.

Naturally any determinations of answers to question 1 must lie with the educational staff of any given system. Lest the interpretation of this discussion be in terms of predetermined curriculum fact essentials the following underlying ideals for education are suggested as partial answer to the question, "What shall we measure?":

1. The development of personalities that face life squarely and accept realities.

2. The development of personalities that accept and reject ideas on their own merits.

3. The development of personalities with the will and the equipment to investigate and promote needed changes.

4. The development of personalities with deep appreciations of the feeling side of life.

5. For each individual the insurance of a conscious working philosophy of life.

For the purposes of this discussion we need not agree on these ideals for education. They are considered of major importance by the writer. They are not meant to be exhaustive. They are given as instances of the type of *whats* that may evolve from considered educational planning.

It is obvious at once that measurement of the popular type will not suffice for this type of educational program. The place of standardized measures of skills in this plan of education falls under "equipment" in 3. Even here, only insofar as we are interested in knowing the very specific abilities of individuals in the items included in the tests isolated from their function in normal activities may we resort to present standardized tests. The fact that we cannot instantly call to mind systems for measuring progress in such growths as those suggested above does not absolve us from finding means of evaluating progress in these directions. It is undoubtedly true that much dissipation of child and teacher energy results in those situations where disregard for critical evaluations and measurement of progress is the vogue. This extreme is to be countenanced no more than the extreme of testing only those skills and abilities that lend themselves to easy recording. Either extreme further side-steps the difficult, critical and keen thinking in terms of fundamental growth processes that must inevitably be done if education is to progress. The person who makes

no effort to mark progress in the more subtle features makes trouble for himself for he cannot see the directions in which educational activities are moving. He must be made to realize that measurement need not be "numerical" and "statistical" but that it can be "more" or "less." He must feel his responsibility for finding ways of evaluating the growths that he holds to be fundamental.

Already the second question has come into the discussion. *How* growth processes in education are to be measured is again a matter for lengthy cooperative study. Ideally records of behavior with pen and picture should be made at frequently recurring intervals and for long periods of time. Records should encompass the many forms of behavior which make up the normal school day of the child. Systematic stenographic records made of class happenings or of the day of single individuals are of great value for the teacher who can go over them in a reflective mood far removed from the coloring incidents of the classroom. Simple charts can be made on which positive and initiatory types of responses may be noted quickly in code. It may be of value to know which children ask questions, challenge issues, suggest means, methods or new activities, seek and secure information independently, cooperate with social intent in others' activities, seek aesthetic means of expression, or express individual conceptions of experiences. It is surprisingly easy by code to note such reactions and it is indeed interesting to compare such jottings after a lapse of time with behavior in similar situations where growth increments are distinctly observable. Cumulative records of the sympathetically conceived type may serve to emphasize the important issues. Their value depends of course on the conceptions which guide their making. Such records should be worked out by committees of those who will use them. They should be readily adaptable to change by individual teachers. Above all they must not be a formidable task for the teacher. It is far better to liberate the teacher to think critically and see clearly the spans of behavior evidenced in the activities of her pupils. A loose leaf cumulative record with very broad categories is probably most adaptable. With this form of record the teacher can have large filing envelopes into which the data about individual children can go. Besides the administrative and planned forms of records samples of the child's productive efforts as well as opportunistic jottings by the teacher can be filed in the packet. A teacher readily acquires the habit of jotting down on a pad incidents which are significant because they somehow index or evaluate some aspect of an individual's behavior. With the content of such a packet spread before her at the end of a year the teacher should have very enlightening notes by which she can evaluate the progress of individual pupils.

We have seemed to place the burden of evaluation on the teacher. In a sense this is unavoidable for the teacher is the person best fitted to attain an integrated overview of growing behavior. On the other hand, there are other important cooperators in the scheme of measurement. The most important is the learner himself. He should be taken in and made a

partner in the summarizing and evaluating of his progress. Many times the child's own appraisals are more significant than those of observers. It is part of the pupil's education to learn to be self critical about significant issues. The teacher must be wary however that the issues about which the child concerns himself are truly significant. Another important cooperator should be the parent. He should be taken into the confidence of the teacher, (and of the pupil) and the facts that he can contribute for the more complete understanding of the child should be given due consideration. The relationship of child to parent is so tremendously subtle and binding that the explanations for many modes of behavior are to be sought only in that relationship. Another cooperator in this program of evaluating and measuring progress should be the supervisory officer. It is obvious that supervisor, teacher and parent must be working in harmony and understanding if not always in complete agreement as to the fundamental ideals for which each is striving. Supervisors could be very helpful in establishing new methods of measuring progress if they would place the emphasis in their thinking on pupil-growth rather than teacher-methods. Supervision must place much more emphasis on the questions of individual progress in place of the exaggerated emphasis on teaching methods. If this important harmony and cooperation can be achieved between teacher, pupil, parent and supervisor, each with the other, some progress in devising techniques for observing fundamental growth processes will be made.

How should these measures be used for the best educational advantage of all? The inclusive answer is that measurements of any kind should be taken as indices of possibilities, not of achieved results. We keep records, make evaluations, give tests, not to set a punctuation mark and flourish beside past achievement, but to help us to know the directions in which progress is being made and the potentialities for progress. The forward look is of extreme significance.

With the raising of these questions our space ends. It is obviously the time for concerted effort and sincere thought about the future of educational measurement and the scientific attitude in education. We must know the directions in which we want education to take us and then look for ways of checking progress. Standardized tests of the typical reading, spelling and arithmetic type must be secondary to patiently, carefully, critically worked-out methods of observing and evaluating the significant growth processes which are the primary concern of education. Any item of behavior will be related to the significance of the complicated growth matrix in which it occurs. Along such lines measurement must be reoriented.

WHAT IS THE NEWER MEANING OF SCHOOL DISCIPLINE?

PICKENS E. HARRIS
ASSOCIATE PROFESSOR OF EDUCATION
UNIVERSITY OF PITTSBURGH

Discipline, in the old sense of teacher control, is disappearing. Professor Harris has a very definite idea as to what is to be substituted in its place.

HOW much freedom? How much discipline? These questions frequently appear together in educational discussion at the present time, especially in connection with observations of practices in the so-called progressive schools. One may find all possible distributions of emphasis: some wish a greater admixture of discipline; others wish more freedom. It appears to some that the whole business of discipline and responsible application have been crowded out of the picture in favor of childish spontaneity and disorderly occupation. One finds those who insist that the solutions of weighty problems of education and grave problems of society depend upon an expeditious return to a saner, more consistent authoritarianism in the school and home. One still hears vigorous, if less prevalent, appeals to the authority of "impersonal imperatives," a "sense of duty," or a "sense of the fitness of things" as the neglected but necessary moral principle for bringing order and responsibility into the school, temperateness and respect into the home, and reduction of crime and injustice into society generally.

By still others, however, it is contended that it is futile to insist upon a return to a more strict discipline in our schools since society is itself in transition from an arbitrary authoritarianism to an informed respect for personal choice in matters of action and belief. In high places it has been insisted that the only authority which individuals in a democracy should obey is the authority of self-imposed purpose. Even when it is conceded that there are signs of a return to the older order of things, to another feudalism — that of corporate wealth and machines instead of lands and castles — it is hopefully insisted that the small taste of freedom already experienced in lowly places may help society to slough off this latest menace to human progress. It is further called to the attention of the strict disciplinarian that the history of man has been the history of a struggle for self-realization on the part of the individual, and that although little progress may have been made in opportunity for the common man to set up his own ends and achieve them in his own way, nevertheless the struggle continues. Man is not willing, except for short unwitting intervals, to give up even the small gains he may have made in directing in a very personal way the ordinary events of his daily life.

Moreover, it is insisted that it is

not necessary to contend for a return to authoritarian control in our schools, since it is obvious that in perhaps a majority of them at least one form of authoritarianism is prevalent already. To be sure one is not likely to find many children getting practice in submissiveness to any "impersonal imperatives," or actuated by any very real "sense of duty." Nor will one find many who are obedient to the "authority of self-chosen purposes," that more recent democratic shiboleth which, to some, contains such an implication of hypocritical evasion and social irresponsibility. One is more likely to find children responsive to the authority found in the routines of an unconsidered institutionalism and more particularly to the immediate day-to-day requirements of teachers and lesson learning. Children are responding to customary regulations that are kept in force by teachers whose habitual attitudes regarding "proper" or "reasonable" control are influenced by numerous factors besides those involved in the more immediate teacher-pupil relationship. Administrative requirements relating to promotions and also the various pressures of mass schooling help to limit childish response to the more immediate, physical qualities of situations and materials. Where children must accomodate themselves to conditions, materials, and movements over which they have no control and in the creating of which they have no genuine, purposive share, things tend to be taken for granted. Indiscriminate response becomes a kind of submissiveness. A deep, yet subtle and unconscious authoritarianism sets in. In his effort to adapt himself to the requirements of the modern school with its intricate organization, the child has little time or stimulus, therefore, to respond to the fundamental meanings of what he does. His control is physical, authoritative.

It is also insisted that the fervent warnings of need for a return to externally derived principles of discipline are completely out of place now because they are the belated echoes of practices and attitudes held before the development of the more recent knowledge concerning the nature of the individual. When we knew little or nothing about children and were at the same time harassed in our ordinary experiences by a hard and unyielding environment, we appealed to controlling principles thought to lie quite beyond the pursuit of our more primitive, practical purposes. We were so concerned about the final destiny of our souls that we thought little of the present possibilities of experience or the meaning of that of children. In trying thus to subject our own lives to future ends and values, we also required children to be submissive to them. We held that there were fixed principles of right and wrong to which it was necessary to have the child practice submission until finally his own life should become surcharged with these controls. But because it is now contended that the moral quality of conduct is in part dependent upon the varying requirements of the particular situations which one meets, this older, negative view is regarded as thoroughly inadequate. It is declared to be a lazy evasion of the difficult task of helping the young to discover for themselves principles of moral control as they emerge

within the requirements of the ordinary practical concerns of personal experience.

The weakness of programs of teaching which do not provide opportunity for the experimental development of moral principles may be appreciated by children themselves, as appears in the following incident. A class of sixth graders was recently asked by the writer what was meant by the statement that "children in our schools do not learn to be good because they do not have a chance to be bad." A little girl said it meant that "you are just doing what the teacher says and you don't need to try to be good." The deeper implication of her statement was that where regulations, prohibitions, and disciplinary standards set "proper" or "reasonable" limitations upon school behaviors, a child does not find it necessary to decide between that which is more right and that which is less right in particular situations. He is not called upon to test and revise his own present notions of right and wrong or to build better standards of performance and excellence through reflection upon those which he now has. The "right" in conduct and the "correct" in regular school learning somehow seem to him to exist already as the controls and requirements of the school. His part is merely to try to conform to them.

It is further insisted that we could not, if we would, return to a consistent use of strict methods of discipline such as would be practically necessary if we should again invoke "impersonal imperatives" or appeal to some alleged "sense of duty" or responsibility. It is regarded as naive to try to do so because children would not themselves stand for it, particularly the older ones. Witness student strikes, clashes with school administrations, and other current chafings at what are thought to be only "reasonable" regulatory measures. These outbursts occur despite the general acknowledgment that current systems of regulation are milder and more enlightened than those of the past. What, then, if authority should pattern itself after the rigidity of former methods? Would it succeed? It appears that machine guns fail to do so in prison walls! The numerous, subtle influences which play into the impulses of children are now so varied and their control effects upon changing behavior so diverse that it is recognized as literally absurd to suppose that those simple, direct controls of the past could again be effective. It is a commonplace that methods of dealing with children that were to some extent effective in the past are less so now. The explanation seems to lie in this multiple character of the influences that enter the child's doings. His environment is divided against itself; it is not all of one piece. He is subjected to various pushes and pulls as he goes from father to mother, from sister to brother, from home to street, to movie, to class room, to shop, to playground.

The whole business of discipline is complicated by the fact that the child's life is literally (not figuratively) identified with a wide range of objective conditions, things, relations, movements, expectations, demands, condemnations, judgments, approvals, threats, rewards, and appraisals which he, as an organism in continuous interaction with his environment, is try-

ing, whether consciously or not, to coordinate and use in giving direction, satisfaction, and success to his own life. The child does not just happen to be in the world. He is organically continuous with it, and is trying to live precisely as adults or those who are trying to help him. The fact that he is apparently so care-free while engaging in the serious business of trying to adjust his life to such diverse pushes and pulls is a tribute to his ability to resist those strains which so often result later on in mental conflict—as witness the number of beds in hospitals for the mentally disturbed.

A child is today identified with a vastly more complex heterogeneity of stimuli than even his parents were at the same age. These stimuli are the doings of others, the uses they are making of things and conditions. These constitute very real, physically existent affairs to which the child must give meaning if he is to have any really satisfying part in life. It is not to the things themselves to which he must learn to respond, for he does this in virtue of his primitive equipment; it is, rather, to the uses, meanings, or connections which things have that he must become sensitive. A child does not escape this deeper demand by being *accorded* freedom, although a superficiality of response may result because his participation is then more nominal than real. Response is not genuinely selective. On the other side, too much external control or discipline may prevent response to matters which the child should be learning to take into account. The child does not develop power to deal with new difficulties.

And yet, despite all of the current, complicating factors and criticisms of authority as a principle of control, it does seem positively necessary that there be stability or order in the educational experiences of children. Nearly all who find themselves concerned in a practical way with child development realize that it is necessary to regulate, to have order, and on occasion to use rather direct, even harsh methods of control. It is all but instinctive that we should regard our adult ways as sources of value in child development. All who deal with the child feel more or less of an urge to treat him comparatively, to judge him on the basis of what he is not or has not in respect to adult ways. The business of school discipline does not come from a clear pedagogical sky; it is not a spontaneous germination inside of "well regulated" schools or homes. It is the expression of the principle of social continuity by which the social inheritance is passed along, however halting and unintelligent be the process. While particular manifestations of control may be irrational, therefore, because they are not based on an adequate understanding of the child, the fact that there is an *attitude* among adults which expresses itself in some system of control is a deep-lying, if primitive, social force which no school or creed can escape.

Moreover, this tendency to control expresses itself even in the efforts of those who would have freedom in the school. It is illustrated in the recent reaction of a teacher to the use of the so-called "free period." The writer was informed that during this period the children could do whatever they

chose. But when the teacher was asked what she would do if two little boys sat down on the floor and began playing marbles, she at once insisted that "of course the thing they do must be worth while." Although this would not be every teacher's reaction, it nevertheless expresses the basic principle that even in matters of free choice of action children are somehow expected to respond on the basis of adult values. Few teachers seem literally to hold the practical view that freedom is a mere matter of physical unconstraint, although the professed notions of some point in this direction.

The foregoing considerations point to the conclusion that though discipline and freedom have usually been set over against each other in such a way as to give the one a flavor of coercion and the other an impression of unguided spontaneity, nevertheless each is somehow connected with the other. Questions which ask *how much* discipline or *how much* freedom must give way to those which ask *what kinds,* or more especially how freedom and discipline are mutually dependent or interrelated. In seeking this positive principle of relationship or unity we may propose that it is to be found in the opportunities which children have under guidance to use things, conditions, meanings in very personal and socially responsible series of achievements. Discipline is multiple, not a single thing. It is a property of behavior in dealing with the particulars of here-and-now situations where the principle of successful getting on is central. Whether one's activity be mainly intellectual, taking place in terms of emotionalized meanings or symbols, or whether, as with young children, it takes place in terms of the more immediate meanings and uses of objects and conditions, the principle of discipline is the same. It is a question of the quality of intelligence exercised in what is done. Looked at over a period of time it refers to the fact that one's grasp of situations is becoming more flexible and more adapted to the larger intellectual and social requirements of what he does; he is growing in power.

Freedom? What becomes of it? We do not wish a freedom *from* anything. We do not even wish that sickly notion of freedom which would parallel it with responsibility or set the two apart. We wish exactly the sort of freedom now reflected in the needs of the unemployed: freedom in responsible action — a freedom to do something constructive and rewarding. We wish that positive, expansive freedom which exists when there is a wide and responsible play of abilities, skills and intellect among the alternatives of significant courses of action. Freedom in intelligent achievement. The teacher's place is inside this kind of freedom, for she must provide the rich, varied environment of materials, questions, possibilities, and suggestions which make possible a practice ground for a full and discriminating play of selective judgment.

There is in this view no question of choice between a more meaningful and a less meaningful response or activity. And even here the matter of choice does not enter. It is a question of the necessity of particular situations. Individual cases present human limitations. A teacher can not always see opportunity to inject the sort of questions or considerations that will imme-

diately stir meaningful response on the part of the child, or as we say, result in more considered behavior. Time may not allow. Various pressures of the moment from within the group may interfere with best analysis and treatment of a particular child in a particular situation. In such a case the teacher does the best she can. On occasion it may be a very direct method, even harsh and apparently thoughtless. She may use force. But it is the best she can do in that situation, not her best as a general principle of action. Moreover, the teacher does not deal in finalities. She is aware that it is the consequences of her treatment of the child that count. She, therefore, manages things so that as soon as possible the child discovers a wider range of meanings in what has taken place. He comes to see his act, and the teacher's method of dealing with it, in larger perspective. What promised to become a smoldering resentment turns into understanding and positive disposition; character is being developed.

We conclude that discipline and freedom are one with the conditions and practice of meaningful achievement. Discipline and freedom are ways of growing; the one is not to be imposed, nor the other merely conceded. This means that about the heaviest responsibility is upon the teacher. Without vast cultural background for providing sensitivity to the numerous alternative possibilities and meanings in particular here-and-now situations which children face; without an informed sympathy for childhood that causes the teacher to wish sincerely to enter into the child's concerns and to be as helpful as possible without nurturing dependence or mere conformity, the quality of discipline or freedom can be but meagre and inadequate.

THE ACTIVITY PROGRAM IN THE INTERMEDIATE GRADES

Part I: Objectives and Standards

John A. Hockett
UNIVERSITY OF CALIFORNIA, BERKELEY

ALL educational philosophers and practitioners since Plato, and before, have defined or assumed the objectives of education. Formulations of educational aims have varied from Spencer's one inclusive goal of complete living to the thousands of specific objectives set up by Bobbitt and by the makers of recent courses of study. It might be assumed that the objectives of education had long since been settled once and for all. Such is, however, far from true. Dewey has recently insisted that education has at the present time "no great directive aim." "The schools, like the nation," he says, "are in need of a central purpose which will create a new enthusiasm and devotion, and which will unify and guide all intellectual plans." Brief reflection should suffice to indicate that the major prob-

lems of education in America are concerned with the qualitative improvement of the educational process. The quantitative, physical basis has been laid. Universal schooling is practically achieved. Young people remain in school for longer school terms and for more years than ever before. School buildings meet standards that but recently would have seemed utopian. Administrative procedures have been refined and improved. Granted that further progress is possible along all these lines, the great challenge at present lies in such qualitative improvement of school work that the brilliant promises of universal education may be fulfilled. Education must become so significant and effective that life will be richer and happier for each one individually and for all collectively. One hundred million "educated" Americans should be disposed and competent to attack the underlying economic problems of our business and industrial civilization, rather than merely tinker with symptoms. They should be aggressively discontented with the present state of politics, both local and national. They should be determined to discover and remove the causes of crime, poverty, and class, racial and international strife. They should, in brief, vision a fairer, juster, happier social order, and resolutely and intelligently work to achieve it.

Determination of the most valid, the most vital, inclusive, worthy goals of education is, then, a problem of the first importance to the profession. General educational aims may be stated in at least two categories. We may, in one case, stress education for citizenship, for home membership, for vocation, for use of leisure. Or, we may center our thought upon those habits, attitudes, traits, and characteristics in the individual that lead to happy and effective participation in all phases of life. We shall in this paper confine ourselves to the second of these views of educational objectives, for two reasons. First, the individual can make no contribution to home, civic, or vocational life unless he possesses those personal dispositions, skills and insights that make for effective participation. Second, this view of objectives is more immediately helpful to teachers in their daily contact with children. We can estimate only vaguely the civic and paternal responsibilities of Tommy Smith twenty years from now. We are able, however, in each of Tommy's experiences today to appraise on the spot his growing in tolerance, in thoughtfulness, in initiative, and in other desirable traits. Since the number of specific educational objectives is necessarily very large, we can emphasize only a few more general ones that seem to have suffered from neglect in the traditional school. Let us, then, point out several important objectives that teachers are, or should be, striving to achieve through their activity programs.

1. *Cultivation of the scientific spirit.* Superior thinking ability raises mankind above the animal world. Critical, creative thinking has made civilization possible. The travail of thought is the only hope of satisfactory solution of the many problems and difficulties that continually beset the individual and society. It would seem that no teacher could render a greater service to her pupils and

to the community she represents than by nurturing and stimulating the child's intellectual curiosity, by encouraging thoughtful consideration of questions and problems encountered day by day, by urging suspended judgment, critical, open-minded evaluation of fact and opinion, and rational rather than impulsive or emotional decision. If this aim be accepted, the disposition and ability of the child to discover, formulate, and attack new problems is of much greater worth than his readiness in memorizing the answers to some adult's "old" questions. These attitudes and procedures which we call the scientific spirit are an inherent part of any activity program worthy the name. The present so-called scientific movement in education is an evil, false to its own professed ideals, in so far as it hinders the fullest and freest development of the scientific spirit in pupils and teachers. That much of the standardization, regimentation, and mechanization of school procedures is due to authoritarian decrees of this false science is unfortunately true.

2. *Development of constructive individualism.* The American tradition of Rugged Individualism was the natural outgrowth of pioneer conditions of life. If the individual, on the lonely frontier, wrestling with the natural forces of a mighty continent, did not rely upon himself he was doomed to failure. It should be obvious that the former concept of individualism — every man for himself and the devil take the hindmost — is totally inadequate for this year 1932, when no man lives to himself, and when the welfare of each is inextricably interwoven with that of all. Long since outgrown are the correlative educational objectives and practices that stressed individual achievement irrespective of social consequence, and that placed chief reliance upon individual competition as means and goal. Yet, individuality is a priceless asset. Life would be unbearable if all persons were fashioned from the same pattern. We need to re-interpret rather than discard our tradition of individualism. Each person, each child, may contribute to the welfare of his group through his uniqueness just as truly as he may detract from it if his individualism is destructive. Modern education must sincerely respect the individuality of each child, not only in its claims and boasts but in actual practice. It must encourage him to be himself, to express himself; it must value his interests, his purposes, his achievements, his aspirations. The child's individuality is his greatest contribution to society; the school's concern is that it should always be expressed constructively, never destructively. Emphasis upon constructive individualism is the cure for mediocrity; it is the answer to the crying need for capable leadership in our times. The school must value highly this goal, with all that it implies for originality and creativeness.

Individualization of instruction means something much more significant than that all pupils do and learn the same things at different rates of speed. It implies that pupils make unique contributions to the work of the class and the school. True individualization permits and encourages different interests and different activi-

ties, all in turn serving to enrich the experience of the group. The activity program provides abundant opportunity for the development of constructive individualism and for enriched individualization of education.

3. *Integration of personality.* A prominent educator has criticized this concept as an educational objective. Its importance can hardly be denied, however, if we stop to consider the factors in the traditional school that made for disintegration: the tenseness, the sense of strain between teacher and children, the evident suspicion on the one hand, the repressed belligerence on the other, the self-consciousness and embarrassment, the presence of double and conflicting motives, the intellectual insincerity and social irresponsibility that characterized the work of the school.

The word personality (from the Latin persona) suggests that each of us "plays many parts" on life's stage. We respond to varying stimuli in many environments, and our responses differ in every instance. Yet in everyday life the real person is not one who plays a part. He is himself, he is genuine, sincere; he knows what he is about. He has his own individuality and his own consistency in the many situations he faces.

Webster defines integration as the process of making whole or entire; integrity as the quality of being complete, undivided, unbroken, or sound. We are concerned, then, with such an organization of the experiences of children that will result in soundness or wholeness. The integrated mind is not a "one-track" mind but one of many tracks which are organically and functionally tied together into an harmonious system. The person who lives richly has a great variety of interests rather than a few. Many interests are pursued simultaneously, but harmoniously. Integrity or integration is primarily a matter of the quality of experience. Quantitative summation is not integration. Thus, a child may experience thirty minutes of arithmetic, thirty minutes of reading, and specified intervals of all the subjects of the curriculum without achieving integration either of knowledge, or of attitudes, or of habits. Without here developing their implications, may we suggest for further consideration the relation of interest, purpose, effort, freedom, and discipline to integration. Many who champion the activity program value above all, its contribution to integrated experience and integrated personality.

4. *Growth in freedom* is our fourth goal. Mankind has always sought freedom; progress has resulted as freedom has been achieved. The individual, as the race, must free himself from narrowness and selfishness, from ignorance and prejudice, from blind impulse, from habituation, from acceptance of that which is low and tawdry. He must be free from these in order to enjoy breadth of experience, in order to act rationally and benevolently, in order to explore the possibilities of the richness of life. Freedom is no undisciplined license, a petty thing achieved without effort. Freedom is the highest goal of humanity, an achievement worth a lifetime's effort. Freedom is a difficult concept, involving paradoxes and contradictions. The free person does not disregard conditions and consequences, but rather takes them into account

more fully and broadly than one who is less free. A common sense view of freedom in the schoolroom advocates the removal of unnecessary artificial restraint and domination *in order that* the pupils may be required to penetrate farther into the inherent demands of the situation and act accordingly. Intellectual control there must be, involving understanding of the situation and foresight of the consequences of the different modes of procedure possible. If the pupils cannot supply this, the teacher must. If the pupils can, even partially, provide the necessary intellectual control, the teacher is morally obligated to grant them as much freedom as they can wisely use. One of the essential objectives of the activity program is freedom from artificiality, from hampering restraint, stifling domination; freedom for social intercourse, first-hand experience, zest, and enthusiasm.

These four educational objectives do not exhaust the possibilities of human development to which the school may contribute. It is not suggested that they are separate and distinct; rather are they closely interrelated. Nor are they peculiar to the intermediate grades. Any significant educational objective is a life objective, a goal of endeavor from birth through childhood, youth, and maturity, to the very end of life. Growth, in all desirable aspects, is not merely the means to a fuller life but is equally the essence of the good life at every age.

If, then, the development of scientifically-minded, constructively individualistic, free, integrated personalities be accepted as the most important aim of education, what guide posts and milestones shall we erect that will help us evaluate our progress? Obviously, fixed, arbitrary, mechanical, mass standards must give way to standards that are personal, flexible, dynamic, cumulative, progressive. There are sincere teachers who cannot conceive the school as surviving such a change of standards. All becomes shifting sand under their feet, unless the "school machinery" is supported by definite, uniform standards in terms of facts and skills acquired. Such standardized requirements seem to afford the only hope of security. This much-desired security is, however, quite impossible in a universe that is fundamentally dynamic, and especially in such an undertaking as that of guiding the growth (a dynamic process) of human beings (whose very essence is variability and change).

New conceptions of the objectives of the school necessarily entail new types of standards, as well as new methods, new teachers and new school environments. More serious recognition must be given to those worthy outcomes of schooling that can be observed and estimated but not exactly measured by "pencil and paper" tests. The pupil's growth in ability to function effectively and happily in his social group is a broad and somewhat indefinite standard, but none the less of first importance. The pupil's ever-increasing disposition and ability to direct his own education are also fundamental; they are nevertheless individual standards that can never be uniform, arbitrary or static. Facts and skills pupils must have, but always in subordination to use. To be educative, these things must be integrated in experience. Our standards

are more significant if they emphasize the pupil's ability to recognize when facts and skills are needed, and which ones, in a specific purposeful enterprise. This insight together with eagerness and facility in acquiring the necessary information and dexterity are the real educational fundamentals which our objectives and standards must recognize. The quest for minimum essentials and the formulation of standards primarily in terms of facts and skills is largely futile. It is to begin at the wrong end. Intellectual development consists in a growing recognition of the significance of facts, meanings, and relationships; it involves the identification of the self with more inclusive, more enduring, more worthy purposes and activities. If these and other first things in education be put first, there need be no neglect of either facts or skills. In fact, they cannot be neglected if the more fundamental objectives are adequately achieved.

In developing our conception of the activity program, we must avoid the restrictive influences of earlier, narrower views of the purposes and functions of the school. It is probable that the experience program (a better name perhaps) will result in more successful achievement of these traditional purposes. Its true significance, however, is in the encouragement it gives us to dare and to accomplish greater things. It suggests a means of achieving broader and more worthy objectives.

THE ACTIVITY PROGRAM IN THE INTERMEDIATE GRADES

Part II: Its Inauguration

Agnes Snyder
NORMAL SCHOOL EDUCATION
TEACHERS COLLEGE, COLUMBIA UNIVERSITY

THE topic will be treated from the point of view of a teacher beginning a year's work. What will be said applies equally wherever the attempt is made to base a program for the intermediate grades upon the principle of activity. Modifications will, of course, be necessary if the work is started during the school year instead of at the beginning. Similarly, there will be variations of procedure if a group of teachers carry out the plan in a single school or in a system of schools. The same principles operate, however, under each of these conditions. The present attack is used purely for the sake of objectivity. Five aspects of the inauguration of the program will be discussed:

1. The teacher's preparation.
2. The acquaintance period.
3. The plan for the year — class and individual.
4. Preparation for work.
5. Carrying the work forward.

The Teacher's Preparation. Basic to the consideration of an activity program is the assumption expressed in the following simple diagram:

Crude activity →
Understanding →
Controlled activity

Through the activity of the individual, crude in the beginning, the world of things, of people, and of relationships gradually unfolds in meaning to him and brings him understanding. In turn, his developing understanding gives to him increasing control over his activities with things, people, and their relationships.

Clarity and definiteness in the thinking of the teacher as to those fundamental understandings essential to the control of behavior give direction to an activity program. The teacher, if he would truly guide others, needs in the light of his own unfolding life, constantly to measure the worth of the understandings into which his experiences are leading him and to test their validity as controls of the activity of the children he would teach. Otherwise, an activity program becomes merely the expression of superficial or sporadic interests and leads nowhere. Hence, the first step in the teacher's preparation for an activity program is his statement of the fundamental understandings into which he would guide his pupils.

These understandings are of several kinds. Some are concerned with the practical affairs of life—obedience to traffic signals is necessary for safety; health habits should be routinized; money should be budgeted. Others have to do with natural phenomena as interpreted by science—when water changes to ice it expands; large bodies of water have a great effect upon climate; the rocks of the earth help scientists to find out the story of the earth; the planets shine by reflected light. Some deal with social relationships—social order and organization are indispensable to true freedom; the roots of our present institutions lie in the remote past; efficient governments require strong and able leaders. Finally, there are those ultimate outcomes of experience, those abstractions which determine one's fundamental attitudes — education should be so conducted as to lead the human race into clearer thinking; the unceasing search for truth is at once a human right and responsibility; the individual reaches his fullest development only when he loses himself in the lives of others.

No complete list of such understandings can be made. Many will exist only as part of the total thought stream of the teacher. It is important, however, that some few, those which are of the greatest significance, should be set down in writing. Unless this is done, there can be no assurance that the experiences of pupils in the intermediate grades will be selected and used with a view to the continuity of the total education of the pupil. At best, only a slight deepening and broadening of understanding can be expected in the short period of the intermediate grades; few pupils will reach the point of conscious generalization in more than a limited area; the whole span of life will be needed before many of the concepts will be understood; and, even at the end, for most individuals, glimpses only will be caught of the greatest truths. The teacher needs to keep in mind that when one leads others into ever-expanding power of thought, achievements serve only to open the doors to new efforts. In such a world of infinite possibilities, of wakened desires, of released energies, the need

for the steadying influence of directing goals is evident. These are furnished by the teacher's clear statement of the understandings into which he would have the experiences of his pupils lead.

The understandings are of general applicability. They function in all contemporary comparable civilizations. The specific means by which such understandings are reached vary with the stage of growth of the pupils and the immediate environmental conditions. Study of the children and study of the environment constitute, in the main, the other factors in the preparation of the teacher.

A preliminary study of the pupils includes analysis of all available records of the individual — age, nationality, health, school achievement, standard test scores, attendance, and intelligence, and all such additional qualitative data as will give greater understanding of the individual. Similarly, records of work done by children in previous years need to be studied — samples of work, lists of books read, excursions taken, activities carried on. Everything that will show the status of the pupils needs to be collected, organized, and studied.

The third factor of the teacher's preparation, the study of the environment, includes a survey of all the resources of the neighborhood. Streams, woods, and fields need to be explored for the plant and animal life which they harbor; acquaintance needs to be made with the people of the community — their racial origins, their dialects, their cultural contributions; industrial plants, wharves, and railroad stations need to be studied in relation to the vocational life of the community; churches, libraries, and places of recreation need to be visited for an understanding of its cultural resources. These are the points of departure from the immediate environment of the pupils into ever-widening horizons. Likewise, they are the media through which an activity program must develop.

The teacher has proceeded thus far along the three lines of his preparation in a more or less unrelated fashion. The selection of the understandings — generalizations, concepts, principles—which he has set up as guides meant the pulling together of all the threads of his experience. No doubt in the process, memories of old activities effective in the past with other children in developing understandings suggested themselves, but, in the main, the first step taken was in the realm of the abstract. The second step—the study of children — very likely brought to mind psychological principles suggestive of other understandings to be considered, but this step, too, was made without deliberately relating it to the other steps. Finally, in the third step, the most objective of the three, while it could not be taken without thought of the children who might explore the neighborhood or of the worth of such experiences to them, the main emphasis was placed upon acquiring a knowledge of conditions. The three steps need to be brought together into a plan of action. Such a plan must evolve out of the companionship of the teacher and the children, out of the desires and needs of the children, out of the wisdom of the teacher in his understanding of these desires and needs and his consideration of them in the light of ulti-

mate values, and out of the combined thinking of the teacher and the children.

The Acquaintance Period. The first contacts of the teacher with the children are in the nature of an acquaintance period. The teacher needs to know the children; the children need to know the teacher. The teacher's preliminary study of the children's records and of the neighborhood makes contacts easy and natural. He will be able to refer to the interests and work of previous years. He has been to the places that the children know. The children and the teacher will not be strange to each other, and, consequently, they will soon find themselves on common ground.

The contacts are both group and individual. The activity program to be planned will include both individual and group projects and it is important, as soon as possible, to establish the set-up of the class on a combined group and individual basis. On the one hand, enterprises need to be carried out together; on the other, the development of skill and personal qualities demand close individual contacts between teacher and pupil. During the acquaintance period, as at all other times, the schedule should provide for individual conferences as well as class meetings.

Group contacts during the acquaintance period are of many kinds, but the key-note should be informality. A teacher in a public school in the South has for several years taken her sixth-grade pupils on a week's camping trip to a neighboring mountain. They go just as soon as plans can be made. The first days in school are, therefore, concerned entirely with the preparation, including the group and individual problems involved, for the trip. Out of the ideas let loose under the freeing influence of camp life, the work of the year develops. While camping trips are neither possible nor desirable under all conditions, some form of excursion is. The teacher may go with the children to any of the places he has previously explored and lead them into a deeper knowledge of their possibilities than the children's unguided previous knowledge of them has given. A fourth-grade teacher took a group of children to the freight station in a small town whose one industry was the manufacture of fiber. She pointed out the labels on the crates and the children realized that their small town had connections with places far away, many of which were completely unknown to them. The subsequent tracing of the lines of travel from their town out into the distant corners of the earth was both a stimulus to imagination and the beginning of world consciousness. A visit to a local library with explanation of its organization and indication of its resources beyond those which the children's limited experience have given them is another good beginning for the year's work. Discussion of current events, immediate and remote, brings the group to common interests. The many things to be done within the classroom itself during the first few days—books to be arranged, responsibilities allocated — offer opportunities for acquaintance.

The individual conference should be kept, as far as possible, on an objective basis. It may be a talk about the summer vacation for the purpose

of seeing if some interest started during that time might be carried further. It may be a conference on the type of reading the child enjoys, or of some collection which he is interested in making. The conference will probably become personal and the teacher will gain much valuable knowledge to supplement that which he has gained from the records of the individual children.

During the acquaintance period, it is of value to have the children develop interest in taking standard achievement tests in order that they may know what their needs are in the skill subjects. Tests should not be given until they can be attacked from the point of view of desire to use them for the purpose of setting goals of achievement. After the tests are taken, individual conferences should again be used for the purpose of diagnosing with the child the results of the tests, mapping out individual work with him and giving him the necessary instruction for carrying forward a definite plan of study. Such independent practice on the skills is a fundamental part of an activity program, provided that the work is attacked in the spirit of definite attempt to improve one's skill.

The acquaintance period will continue, of course, as long as the teacher and children are together. Each day as the work of the year goes on, the teacher will gain new insight into the child life about him. The term here, however, has been used to describe those beginning days when a certain degree of exploration is necessary before goals for the year can be set, plans made and work begun on a real basis of understanding and desire.

The Plan for the Year. Too much stress cannot be placed upon the point that planning cannot begin until there is genuine knowledge of the conditions by both teacher and children. The time spent in gaining this knowledge will be time gained in the end. The only goals worth setting up are those which rise naturally out of the needs which are felt by all concerned. When the planning should begin cannot be definitely stated. Negatively, it is safe to say that it should not be begun until many suggestions have been given as to things that the children believe should be done. If the year's work is attacked in this way, various suggestions offered during the acquaintance period can be collected and their worth and their relative values carefully weighed before anything is definitely decided upon.

The teacher has as his guides for selection his knowledge of the children, his knowledge of the environment, and the ultimate understandings to which he would lead the children. If the acquaintance period has been carefully handled, the children will have, in many respects as vividly as the teacher has, a knowledge of their own needs as revealed to them through standard tests and through the limitations and strength in themselves which they have come to realize; they will have had their previous experiences recalled to them; their interests will have been wakened in things, places and persons previously meaningless to them. Now will come the weighing of values. The collection of shells made by one of the children during the summer may have suggested an interest in the study of sea life with all its possibilities, liter-

ary as well as biological. The discussion of Ghandi's mission may have opened up an interest in India or the relationships among the parts of the British Empire. The Japanese-Chinese controversy might similarly have challenged the children to an understanding of the problems of the Far East. The visit to the stream may have suggested further study of the plant and animal life of the region. The consciousness of the different nationalities represented among the children might have a roused an interest in the study of racial origins and background. The richer the experiences during the acquaintance period, the more prolific will the children be in suggestions for the year's work.

Which shall be selected? Which shall the class work on as a whole? Which shall individuals carry on independently? The discussion is guided by the teacher. His criteria are:

1. Which have the richest possibilities in the development of the fundamental understandings determined upon?

2. Which are of most general interest in the class?

3. Which are best suited to the needs and abilities of the class?

The decision should not be made hastily. Teacher and children thinking together — the teacher leading — weigh the relative worth of the suggestions and come to an agreement. There is much to do; there is just so much time to do it in. A rough blocking out of the year's work takes place. What shall be the main center of interest before Thanksgiving? before Christmas? What had better be deferred until the spring months? What are the regulations of the school as a whole, or the activities of the school as a whole in which this particular class will participate? What activities are constant? A long view ahead is taken. A school year is to be lived; things are to be accomplished; it is most important that time be carefully budgeted. The plan should be put into written form. Every child will probably want a copy to be kept where it can serve constantly as a reminder. Frequently during the year it will be checked and modified, but the original plan must never be forgotten.

Similar to the plan for the class as a whole is the plan that each child makes, under the guidance of the teacher, for his own personal development. Some of it has already been done during the acquaintance period when they diagnosed his test results together. Some of it was done in the conference on his summer vacation or his hobbies. It remains during this period of planning to formulate his individual plan in the same spirit as the class plan is formulated. Like the class plan, the individual plan should be carefully written by each child and kept where it will serve as a reminder and as a check upon accomplishment.

Preparation for Work. With the plan in mind, it is now necessary to prepare for work. First, what materials will be needed? How can they be procured? The children are led back to a more detailed study of the resources of the neighborhood. Possibly shops need to be visited or letters need to be written. When shall this be done? Time limits need to be set. The big year's plan is being

narrowed down to the immediate. How much shall be done tomorrow? At what time tomorrow? How shall the work be allocated? As materials begin to accumulate, they must be organized; otherwise they are useless. Filing devices of one kind or another are needed. How can they be procured? It may mean the converting of boxes into filing cases. It may mean that clippings are to be mounted. It surely will mean the cataloguing of material. These are tasks of peculiar value to children of the intermediate grades. They are eager to collect and to organize. Out of the experiences they gain in the organization of class materials should come life habits in the organization of their own individual materials.

During the acquaintance period, some of the basic preparation of the room for work has been made. Now in the light of the plans for the year, more specific preparation can be made. The work in science will very likely require a corner of the room devoted to collections and experimentations. It may send the children out into an exploration of the school grounds to find a place for pets or for a garden plot. The assembly that has been planned requires the making of scenery. A corner of the room to be used as a workshop is essential. A place where tools can be kept must be provided. Where shall the filing cases be placed? How can a library corner best be arranged? How can every child be assured an orderly, quiet place for work when study is needed? These are problems of preparation which need to be met. They are solved by the teacher and the children together.

Carrying the Work Forward. The year's work now started goes on in a continuous series of planning, teaching and recording. Children and teacher plan together; they experience together; they record their experience; in the light of progress or needs revealed in the records of the experience, new plans are made. From the immediate environment, the children's interests ever widen and extend into larger worlds of things, people and relationships.

The part that the record plays in the activity program is of great importance. Without it, there is no sure way of knowing that the goals set in the beginning are ever attained. Furthermore, the work of future teachers with the same group of children cannot proceed effectively unless they know what has happened in the past. The records passed from teacher to teacher furnish the means for the avoidance of repetition and the assurance of variety of experience.

Those permanent and persistent problems which are part of the present civilization are met in an activity program. Health is cared for on a habit basis and through scientific study. The language arts demanded by society are practiced constantly and checked for accomplishment. So also is skill in the use of the fundamental number relationships required for efficient living. The whole program has for its fundamental consideration, whether the activity be mental or physical, that true learning has its beginning in desire.

THE ACTIVITY PROGRAM IN THE INTERMEDIATE GRADES

PART III: ITS DEVELOPMENT IN LINCOLN SCHOOL INTERMEDIATE GRADES

PAUL R. HANNA
ASSISTANT PROFESSOR, TEACHERS COLLEGE, COLUMBIA UNIVERSITY
AND ASSOCIATE IN RESEARCH, LINCOLN SCHOOL

IT is very difficult to say when the activity program was actually conceived in the American schoolroom. Historians have pointed out that the education of previous generations was principally of the activity type; that is, in the agrarian age children learned the simpler processes of arts, crafts and industries through home participation. The child as a productive member of the family was responsible for herding the cattle (therefrom learning many facts and generalizations we have taught as natural science); he participated in the processes of milking, separating, churning, or cheese making; he watched the butchering of the cattle and helped in the tanning of the leather (acquiring many facts which we classify as geography and industrial arts); and he learned early how to tool this leather into shoes and harnesses (gaining vocational knowledge and skills). These experiences were *meaningful* to the child to the extent that he saw the inter-relation of the variety of processes as well as their relation to himself and his family. These experiences were *active* in that he personally shared in the doing. In much the same way practically all of one's knowledge and skills are acquired by activity in a primitive society.

Psychologists have given evidence that learning takes place best under conditions where the learner has active and meaningful experiences. It is contended that habits and concepts acquired under such conditions are functional to a greater degree than those learned in situations which are only described, largely isolated from reality, and predominantly passive. But an analysis of our traditional curriculum shows that education has very definitely limited the situation in the school room to abstract exercising of mental faculties. In the formal school the learner is not active in the sense that he is purposefully engaging in the planning, executing, and judging of an enterprise. Nor are the experiences meaningful because they do not grow out of situations in which the child has first-hand experience. This movement of formalising and abstracting school learning went on apace in our century and in some classrooms the learner is becoming more and more a receptacle in which the teacher attempts to mix a porridge of culture.

But somewhere along the time line of recent educational history wise teachers recognized this trend to meaningless and passive classroom content and method. The story of the strug-

gle against formalism is vividly told in the Twenty-sixth Yearbook of the National Society for the Study of Education.[1] Francis Parker and John Dewey were among the first to influence classroom practice directly. Bonser and Kilpatrick had carried the theory forward to wider study by 1920. Washburne at Winnetka, Collings in Missouri, Flora Cooke at Francis Parker, Caroline Pratt at City and Country, Marietta Johnson at Fairhope, and many others have contributed in theory and practice during the past decade.

Lincoln School, established in 1917 for the purpose of experimenting and innovating in curriculum, attempted to give children opportunities to learn through meaningful and active experiences. No method of classroom procedure was arbitrarily accepted at the outset for experimentation. Rather, experimenting with several approaches to the problem from different angles was recognized as essential. A continuous study of the children, their interests, capacities, and work habits in relation to the various classroom techniques under trial resulted in a tentative hypothesis that the method and content which has since come to be known as the unit of work or activity program offered the most possibility for child growth. At the end of ten years of experimentation the staff members drew together the description of their laboratory procedures and published this record in a volume entitled, Curriculum Making in an Elementary School.[2] This record described somewhat in detail the theme or the units of work which had proven successful to 1926. The following several paragraphs will summarize typical of these units for the intermediate grades.

Grade four: *A Food Study.* "Pupils in the fourth grade begin to make independent use of the school cafeteria. In order to insure their selection of suitable luncheons they should make a rather careful study of balanced meals and food values. This choice of food becomes their responsibility, and so a unit on food usually becomes the first definite whole-class activity in the fourth grade. The object is to create a real interest in the proper selection of food based on intelligent knowledge of food values."[3]

The activities in which these children engaged included: a dietary experiment on mice and rats kept in the classroom; discovering through reading and experimentation what foods are best for health, muscle and energy; cooking vegetables and meats, drying fruits, canning and preserving; the entire planning and preparation of balanced meals; keeping a record of lunches eaten at the cafeteria and comparing them to a standard chart of food values; visiting a farm, a fruit and vegetable market, and a milk bottling plant; research on the geographic sources of the foods; computing and comparing relative cost of foods; etc.

Grade five: *Water Transportation.* "Over a period of years a rich boat unit has developed in the third grade. So great were the possibilities in other leads into water transportation which

1 National Society for the Study of Education. 26th Yearbook. Curriculum Making, Past and Present. Bloomington. Public School Publishing Co. 1926.
2 Curriculum Making In an Elementary School. Lincoln School Staff. Ginn and Company. 1927.
3 Ibid., pp. 158-168.

were obviously too difficult for the third grade that it seemed desirable to experiment with the material in the fifth grade."[4]

This shift in grade placement of units is typical of the experimental program of the elementary school. Later, should some new factors develop, the unit theme might be shifted to another level for experimentation or even eliminated altogether in order to develop some new theme in which the children showed great interest and promise of growth.

This unit of water transportation consisted of the following types of activities: finding, reading and discussing the stories of primitive and ancient peoples who first discovered and developed boats; visiting the local harbor to study first hand contemporary boats; trips to museums to learn the story from exhibits; experiments in the classroom with various types of floating bodies, and instruments of navigation; making boat models from wood and metal; depicting the history of boats in painting, verse, drama and song.

Sixth grade: *How Man Has Made Records or Books Through the Ages.* "Children are surrounded by books. Why not help them to use them intelligently and to learn to love and appreciate them more fully? . . . The child realizes that through books, as a means of recording the activities of man, he is able to understand the past and its effect upon the present. The story of making records goes back into prehistoric times. Later people depended upon the professional storyteller for the knowledge of their current and past activities. . . . There is the story of the alphabet and how it came about; there is the story of how books were illuminated by the monks. The whole is a romantic story of how men invented ways of reproducing their thoughts."[5]

The activities of this unit included among many others a survey of the kinds of records we make today; experimentation with papyrus to make paper the Egyptian way; making records on clay tablets; trips to museums to study old records and manuscripts; engaging in an enterprise of making a classbook; a study of the great inventions through which man has improved his record keeping.

Other units are described in this publication in considerable detail or only suggested briefly for the intermediate grades. Since that time, however, many new themes have been developed in accordance with the interests of the children. Among the more successful of these themes are aviation, architecture, toys, land transportation, the story of the earth and the universe, the prehistoric life.

Sixth grade: *Aviation.* For three successive years one of the two divisions of the sixth grade has studied aviation. There is an excellent body of children's stories of myths and legends of flying to read. The history of development of lighter and heavier than air flight is thrilling and full of important scientific and social history. The romance and adventure of contemporary fliers is more than sufficient to challenge normal boys and girls.

[4] Curriculum Making In an Elementary School. Lincoln School Staff. Ginn and Company. Boston. 1927. 174-185.

[5] Curriculum Making In an Elementary School. Lincoln School Staff. Ginn and Company. Boston. 1927. pp. 198-219.

One can trace the world flights on a globe, or map the routes of the mail planes. Excursions to airplane factories and flying fields offer excellent opportunity for survey type of research. Speculation as to the importance of air transportation in the future is stimulating and at the same time can be highly educative. Any attempt to express the children's expanding knowledge, attitudes and appreciation of aviation will involve oral presentation, written reports, artistic illustration, or creative design and construction. And the culmination of the unit usually consists of a systematic presentation of the field of aviation to the rest of the elementary school through an assembly program.

Sixth grade: *Architecture.*[6] Simultaneously with the development of the unit of aviation, the other sixth grade worked on the theme of architecture. Buildings are being erected in every community with little thought given to the appropriateness of the design to the function the building is to serve or materials available. Modern architecture is usually an ugly conglomeration of details selected from buildings of previous eras. The lack of architectural planning by cities is responsible for metropolises in which there is little beauty or utility—generally unharmonious use of traditional and often conflicting styles of architecture. Excursions into any community to note these architectural features offer the stimulation to study the origin of the various types. Under what economic, social, political, and religious conditions were the Egyptian, Byzantian, Greek, Roman, Renaissance and other types of architecture developed? What are the characteristics of each period? How has each influenced subsequent architecture?

There are many challenging and worthwhile activities in which the children engage and from which they accumulate and synthesize a body of experience which gives them the romance and the sweep of the history of architecture. They use various media to rebuild the major architectural types; they experiment with columns and freizes, arches and keystones, gargoyles and flying buttresses, as well as modern steel and concrete forms; they make rose windows of colored glass and the gargoyles of clay. They work out time lines to show the consecutive developments and major architectural contributions of the various civilizations; they reenact in dramatic form the stories of the great architects and famous buildings of the ages; they utilize all their knowledges and skills in formulating possible architectural principles and forms for the future.

Fourth grade: *Toys.* Fourth grade pupils are still vitally concerned with toys and yet mature enough to consider many of the social, industrial, artistic, historical, and geographic aspects of the theme. Toys are brought to the classrooms and an exhibit started. Soon the collection becomes large and unmanageable. It needs classification and then obvious differences in ancient toys and modern toys come to the front; the toys are from different nations; they are made from different materials, some are handmade and others are machine

6 "Architecture." Barnes and Young. Bureau of Publications, Teachers College, Columbia University. 1932. 250 pp. A series of publications now in preparation will describe in detail the development of each of the more worthwhile units of work being developed at Lincoln School.

made. As the organization and classification of the toys proceeds much research is necessary in numerous fields. Reading and reports, trips to toy factories, excursions to toy stores, visits to museums, all give new information. Sociological and economic considerations enter after a visit to a factory and the children learn that different workers receive different wages for their work and necessarily then must maintain different standards of living. Industrial processes become clear as the children watch the making of a doll from raw materials to the finished product. Children of other lands and other times take on a new interest and meaning as the class discovers the variety of toys from the Egyptian child Pharoah to the modern Russian children. Attitudes of contributing to the social welfare grow while the class makes sets of wooden toy animals for children of a charity nursery school.

From this hasty survey of the types of activities developing in the intermediate grades of Lincoln School the reader has seen the attempt to explore many themes for the core of the curriculum. Each year finds some teacher finishing the exploration of a theme and getting the story of the tryout ready for publication. Each year finds other teachers striking out on children's leads and giving stimulus and direction into some new field which seems promising. Many starts prove unprofitable to the children and are not developed. Other leads develop in directions not at all anticipated but which prove more challenging and present more worthwhile experiences in the redirection.

One of the major problems emerging from this program of experimentation with various units of work is the sequence of activities for a child as he progresses through the six grades of the elementary school. Unless careful supervision is given, it is entirely possible for a group of pupils to deal with the same general theme for several years. This concentration in itself may not bring a negative educational result, but when the outcomes are measured against the criterion of possible breadth of contact with a range of activities, there may be a tendency to a narrowness of interest and knowledge. The question of how to determine this sequence of units has not been answered as yet. Shall the selection of theme be made entirely on the basis of the children's interest? Obviously this does not provide for developing new and equally worthwhile curiosities. Shall the selection of theme be made with such criteria as acquaintance with the major fields of human endeavor? While such a criterion would possibly prevent a poverty of activities, still there are so many fields of human endeavor that such a principle would hardly aid in limiting the choice of units. Shall the units deal largely with phases of social studies or should there be units with major themes of science, aesthetics, health, etc? These and further questions must be studied in relation to the plan of the activity program for the entire elementary school.

Thus Lincoln School now faces the task of working out a scheme for the accumulation of experiences through the six years of the elementary school. To date the major emphasis has been

placed on exploration of some of the possible activities on the various age levels. Themes of Food, Aviation, Architecture, Records, Water Transportation, Toys, etc. have been developed and a rich body of materials and activities assembled. This task seemed necessary before the problem of a scheme of sequence of themes could be attacked. While this exploration and development of new themes will proceed even more rapidly than before, yet the second problem of sequence undoubtedly will take an increasing share of the thought and effort for the next decade.

A NEW METHOD IN MAP-WORK FOR EUROPEAN HISTORY

HASTINGS EELLS
PROFESSOR OF HISTORY, OHIO WESLEYAN UNIVERSITY

This method applies quite as well to Elementary American history. Its simplicity is what gives it great value as a teaching device.

WHILE traveling in Europe a few years ago I discovered that all the best trains followed the main rivers or the passes through the mountains. If I journeyed by these routes I reached my destination quickly and easily. If, on the other hand, I traveled by a train which crossed some natural divide, it took a much longer time to make even a short journey; not so much because of the grades encountered by the train, as because the main current of traffic did not run that way, and consequently the through trains avoided it. This gave me a new idea for the teaching of European geography in my history classes — an idea which has yielded much better results. Now my students actually know more about the geography of Europe, and not only that, they find more pleasure in its study.

The principle at the basis of this new method of map-work is that historical maps are something to study. If study is to be the primary purpose, then they must be made as simple as possible. All waste effort must be avoided. No time must be spent in doing anything that does not contribute to the study of the historical aspects of European geography. Thus attention can be concentrated on the points of interest. Also, the maps must be given a direct connection with the course. Every line and every name must be something which has been mentioned in the course, and any names not mentioned must be eliminated. Such obvious titles as "Atlantic Ocean" must be discarded, and along with them must go all names and boundary lines which are too detailed to find a place in the daily lessons. After such a process of elimination everything on the map will have a historical meaning and the student can be expected to know what it is. He can take his map of Europe after it is completed and explain every line and every name inside the outline of the continent — tell why it is there and what is its historical significance.

How is this accomplished? The first step in the process is for the

teacher to make a relief map by tracing an outline of Europe showing the most important rivers and mountain ranges. I would suggest that the following would be found sufficient: Loire, Seine, Scheldt, Rhine, Elbe, Oder, Vistula, Rhone, Po. Danube, Dniester, Pyrenees, Alps, Apennines, Balkans, and Carpathians. This map should be just small enough to fit on notebook paper size 5½ x 8½ inches and should then be mimeographed on paper 8½ x 11½ inches. These mimeographed maps should then be passed out to the students. The students should trace them upon their notebook paper and keep them in the front of their notebooks. They should write the names of the rivers at the mouth, so as to leave plenty of room on the map for other names, and the names of the mountains alongside of the ranges. Then the student should memorize the names of the rivers, and mountains and be able to tell at any time where they are. It is also a good plan to pass out blank copies of this relief map and have the student write in the names from memory. This is one of the advantages of such a method of map-work, because the mimeographed maps are much cheaper than the printed forms now on the market. Besides they are not cluttered up with a vast amount of river tributaries and other lines that only confuse the student. After the relief map has been thoroughly memorized it may then be used as a general map for locations at any period in European history. The method of making locations will be explained later.

The value of the relief map is that the rivers and mountains are the permanent things in European history. They remain the same while other things change. Consequently places can be located with reference to them more accurately than in any other way. For example, Strasbourg should be located not in France or Germany, but on the upper west bank of the Rhine. This location is then good for any period. In the early Middle Ages there was no France or Germany, so that a location of places by countries in that period is sure to be misleading. Besides most of the important towns of Europe are located along rivers. The boundaries of countries, especially in the Middle Ages, were usually drawn along mountains or rivers. Thus the student who knows the main mountains or rivers of Europe has a key to geography that is useful to him at any period. The rivers are the streets in Europe—the mountains are the fences. The traveler must know where they lie and so must the student of historical geography.

The second step is to make a series of mimeographed maps of Europe at different crucial years, such as 1500, 1648 and 1815; the years being chosen to fit the course. On each of these maps should be drawn the boundaries to which attention is called during the course with reference to the year of the map. On every map the mountains and rivers should be indicated but the names should be omitted because they have already been memorized. When you reach the end of the period marked by the year of the map, pass out the map to the student. He should write the names of the countries of importance on the map and distinguish their boundary lines. One of the best ways to distinguish boun-

dary lines is to draw thin lines of different colors inside the boundaries. For example, in a map of Europe in 1815, the boundaries of all the important countries established by the Congress of Vienna should be indicated but especial attention should be drawn to the boundaries of Prussia, the Austrian Empire and the German Confederation. The overlapping character of these boundaries can be clearly indicated by drawing a thin blue line inside the boundaries of Prussian territory, doing the same in red for the German Confederation and in green for the Austrian Empire. The student should then be able to explain the historical significance of the boundaries indicated. For example, he should tell that part of Prussia was not included in the German Confederation in 1815 because it was inhabited by non-Germans and had not been included in the Holy Roman Empire. The value of having such a series of maps is that it eliminates many of the difficulties usually encountered in boundary work. It is hard to find a map in an atlas or a text which illustrates the boundaries to which you may wish to call attention in your course. It is still harder for the student to transfer these boundaries to an outline map of a different scale, which is overloaded with a mass of unfamiliar lines. Moreover, the essential thing is not for the student to puzzle over such problems of cartography but for him to recognize the condition of the boundaries in question and be able to explain them. This map may then be used for locating places of historical importance between that year and the year of the next map passed out in the course.

In locating towns, battle-sites and other points of historical importance on these maps, the best method is to have the student make on the back of the map for the period he is studying a list of all the important places mentioned during the study of that period. For example, if he is studying the Reformation, he should have a map of Europe in 1500 and list on it all important places in the history of Europe from 1500 to 1648. These places should be located on the map, and in doing this various methods may be followed. It is a good plan to place only dots on the map until the end of the period is reached and then to write in the names, because by that time it is clear where different names may interfere with each other, and this interference can be avoided more easily. Another good plan is to have dots on the map when it is mimeographed marking the important sites, and have the student merely identify them and write the correct name beside them. This, however, makes it hard to use the map from year to year as the course changes, and is likely to destroy the student's initiative, so that a better plan is for the teacher to indicate the location of important places as they are mentioned in class and have the student make a dot on his map then. In addition the student should also include in the list on the back of his map a statement of the historical importance of each place. Finally, at the end of the study of the period he should be prepared for a recitation on the map, and perhaps for a quiz, in which he should be able either to describe any place located or to indicate it on a blank map.

One important feature of this method of map-work is for the student to keep all his maps in the front of his notebook. Thus during the course he will collect a series of maps which are directly related to it. More than that, they will be his maps, made by himself, and fitted to his own notes. He will take more of a pride and an interest in them because in a real sense they belong only to him. Being in his notebook it will be easier for him to refer to them, and often the teacher will find them more convenient in class for that purpose than the wall map. In fact it is a good plan for the teacher to tell the class to turn to the map in their notebook whenever some place or boundary is mentioned and locate it there. Since the maps are side by side with the other notes, they can be studied just as the other notes are studied and they become not only a drawing on paper but also an image in the student's mind.

RE-EMPHASIZING THE PLACE OF INTEREST AND MOTIVATION IN THE LEARNING PROCESS

WARREN C. MIDDLETON
ASSOCIATE PROFESSOR OF PSYCHOLOGY
DE PAUW UNIVERSITY, GREENCASTLE, INDIANA

Those of our readers who have read widely in the field of educational psychology will appreciate this scholarly summary. Those of us who are not so fortunate as to be educational psychologists will be even more grateful for this clear presentation of the several points of view.

IN our feverish haste to learn "more and more about less and less" in the scientific study of our so-called "new" education, there is always danger that we may lose sight of the woods for the trees. Without meaning to appear conservative, the writer would like to register a strong plea for a re-emphasis in educational psychology of such topics as attention, interest, motivation, *et cetera*. And why? Merely because these factors seem to be basic in all learning. Suppose that we single out just one of these factors. What, for instance, is the place of interest in the learning process? Perhaps those who are especially alert to the various practical problems of teaching technique would be willing to review what a few of our psychology books and treatises have to say. Suppose, then, that we turn to a small portion of the literature. What do we find?

One of our first discoveries is that attention and interest are usually discussed together. Wherever they are treated separately it is merely for the sake of convenience rather than because of any felt need of a distinction. "Whoever treats of interest inevitably treats of attention, for to say that an object is interesting is only another way of saying that it excites attention."[1] "It is questionable, indeed, whether any one, adult or child, trained or untrained, can attend unless interest is the mainspring of the effort."[2] "The best single guarantee of close and continuous attention is a

1 James: "Talks on Psychology and Life's Ideals," p. 100.
2 Roarke: "Psychology in Education," p. 49.

deep, direct interest in the work in hand, an interest similar in kind to that which children have in play."[3] "In the more advanced stages of development, interest and attention run together, but at first, attention is somewhat in the lead. Conditions other than interest are able to impel attention. . . . In more advanced stages, the interest and the attention are concomitant. Interest is then the impelling aspect, and attention the controlling."[4] "Attention cannot be separated from interest or from purpose. But the interest may be indirect, and then greater strength of purpose is needed to make possible as thorough a concentration of attention as when interest is direct."[5]

Interest must not be thought of as a constant thing. Dewey[6] calls to our attention the well-known fact that direct interest may become indirect as the scope of attention is prolonged, and indirect interest may become a direct interest. And James remarks: "Any object not interesting in itself may become interesting through becoming associated with an object in which an interest already exists. The two associated objects grow, as it were, together; the interesting portion sheds its quality over the whole; and thus things not interesting in their own right borrow an interest which becomes as real and as strong as that of any natively interesting thing."[7]

We may well ask the question: "What is interest?" "Interest is the name given to the pleasurable or painful feelings which are evoked by an object or idea, and which give that object or idea the power of arousing and holding the attention."[8] "It must be remembered that appeals to interest are always relative, not absolute. We attend spontaneously to whatever has the highest interest value out of the possibilities before us."[9]

As is the case with attention, no one would doubt that interest has a significant affect upon the learning process. Here we seem to be dealing with a phenomenon which is a matter of common observation, and we also discover that the psychologists and educators who speak of interest, are content, for the most part, with "armchair" observations. The average writer speaks as one having authority, but without producing any experimental evidence. That interest does affect learning there can be little doubt, but in what way, or ways, does it affect it?

As one sample of the rather vague, general, all-inclusive type of statement that one may find in psychological and pedagogical literature, I submit the following poetical paragraph from the pen of Kitson:

"In concluding this discussion we should note the wide difference between the quality of study which is done with interest and that without it. Under the latter condition the student is a slave, a drudge; under the former, a god, a creator. Touched by the galvanic spark he sees new significance in every page, in every line. As his vision enlarges, he perceives new relations between his study and his future aims, indeed, between his study and the progress of the universe. And he goes to his educational tasks not

3 McMurry: "How to Study," p. 37.
4 Arnold: "Attention and Interest," pp. 226 ff.
5 Welton: "The Psychology of Education," p. 267.
6 "Interest and Effect in Education," p. 38.
7 Op. cit., p. 94.
8 Dexter and Garlick: "Psychology in the Schoolroom," p. 31.
9 Meredith: "The Bearings of Modern Psychology on Educational Theory and Practice," p. 56.

as a prisoner weighted down by ball and chain, but as an eager prospector infatuated by the lust for gold. Encouraged by the continual stores of new things he uncovers, intoxicated by the ozone of mental activity, he delves continually deeper until finally he emerges rich with knowledge and full of power—the intellectual power that signifies mastery over a subject."[10]

All that is said in this paragraph is true, and as the reader smoothly glides along through it to its brilliant conclusion, he becomes almost "intoxicated by the ozone" of the simple beauty and truth here expressed; but one is left with only a vague, literary impression of what interest is, how it affects learning, *et cetera.*

Not only is there an essential connection between attention and interest, but there is also a close relationship between effort and interest. "One of the greatest mistakes education has made has been to lose sight of the relation to each other of these two types of attention."[11] It has been common for educators to divide themselves into two camps — those who believe in effort for its own sake, and those who are advocates of the soft, "sugar-coated" pedagogy which gives a fictitious value to that which is pleasurable, and counts effort as harmful and valueless. Many teachers regard interest as a sort of sugar-coating to make bitter pills less objectionable. Might it not be desirable (the question has often been raised) to make interest an end in itself? Edwards,[12] at least, believes that both attention and interest are important as ends, and many other students of psychology and pedagogy are of a like opinion.

Thorndike names interest in work and interest in improvement as two of the commonly accepted aids in improvement. He says: "Evidence of the potency of interest in the task and in the improvement at it can be got directly by comparing (a) the improvement made in a function when the experiment is designed to measure improvement and the learner is thereby led to be concerned with the gain in his score with (b) the improvement made in the same function when the experiment is designed to measure the effect of drugs, and the like, and the learner is likely to be less concerned with the gain in his score."[13] It is unfortunate that such a comparison has never been quite satisfactorily made. However, no one doubts that interest in the exercise of a function favors improvement in it. And no one would gainsay that interest in the improvement itself — satisfaction at gain and annoyance at inertia—favors improvement. From the experiments in addition made by Wells and Thorndike, the latter investigator believes that he is safe in saying that the studies testify somewhat to the potency of interest, "whereby the added zeal and satisfaction at success which came from *adding for improvement* primarily, rather than simply to provide an investigator with material on hunger or pause-length, increase the rate of gain notably."

It is a well-known fact that interest is also very vitally connected with recall and memory. "The rapidity with which the power of recalling is acquired depends to a large extent on the keenness of the interest attaching

10 "How to Use Your Mind" (Third Edition), p. 165 ff.
11 Norsworthy and Whitley: "Psychology of Childhood," p. 108.
12 "The Psychology of Elementary Education," p. 6.
13 "Psychology of Learning," p. 220.

to the original experience. . . . Differences in the length of time during which the power of recall is retained also depend largely on interest."[14] The readily associated objects in memory, according to Calkins,[15] are the interested ones.

Ordahl[16] lists interest as one of the concomitants of success in ball throwing. Furthermore, interest seems to be necessary for keen observing ability. "Observation depends upon interest, and with interest the observation-process becomes 'reflex' or automatic and therefore easy."[17] And who has not found that interest is necessary in studying? "In the long run the secret of study resides in an ability to bathe our thought, our task, our lesson in a stream of interest. The way to study successfully and joyously is to be interested in the thing that claims our attention."[18]

Interest and thinking are also very closely allied. A rather common idea is that thought comes from voluntary attention and is something foreign to interest. Dewey's theory of interest has shown that this conception is wholly erroneous. "Interest, voluntary attention, and thinking are synonymous terms, to the extent that they belong together, presupposing and supplementing one another in the solution of concrete thought problems."[19] If the pupil is to think, interest must be found in the process somewhere, and "the pupil should be made to realize that he should never yield to the initial lack of interest. . . ."[20] "Somehow or other, if improvement is to be steady the work must seem worth while to the child; it must satisfy some need of his, he must be interested in it. In the practice of the experimental laboratory this interest is present and helps to account for the results."[21] "The problem of the primary school is to keep the children occupied in doing a succession of things in which they take eager interest, and find immediate satisfaction."[22]

The "wish to learn" is what the child should acquire. Speaking of Locke's device for teaching children to learn to read by letters carved on dice, Rousseau says: ". . . a more excellent incentive than any, which is nevertheless always neglected, is the wish to learn. . . . Give a child the wish and do as you will about cards and dice; any method will then be suitable."[23] Attitude, as Pyle[24] points out, is a very important factor affecting the rate of learning. Attitude has much to do in determining whether a given process shall be at the front of attention. We usually see what we are looking for.

If interest is so important in the learning process, it then logically follows that motivation becomes a matter of great concern in education. There must be some sort of motivation, because it is the common experi-

14 Stout: "Manual of Psychology," p. 438 ff.
15 "Short Studies in Memory and in Association from the Wellesley College Psychological Laboratory," Psy. Rev., V, 1898, 451-462.
16 "Consciousness in Relation to Learning," Am. Jour. Psy., XXII, 1911, 189.
17 Dearborn: "How to Learn Easily," p. 46.
18 Lyman: "The Mind at Work," p. 50.
19 De Garmo: "Interest and Education," p. 211.
20 Colvin and Bagley: "Human Behavior," p. 64 ff.
21 Norsworthy and Whitley: Op. cit., p. 199.
22 Hyde: "The Teacher's Philosophy In and Out of School," p. 4.
23 Archer: "Rousseau: On Education," p. 120.
24 "The Psychology of Learning," p. 57 ff.

ence of everyone that "vigorous mental activity is put forth only when there is a feeling that the results sought are of sufficient value to justify the effort."[25] The practical problem is how to secure attention and permanent dispositions. It is plainly evident that effective incentives are needed.

Pyle[26] names four incentive factors: (1) knowledge of the end sought; (2) knowledge of score; (3) knowledge of errors; (4) knowledge of when the material learned is to be reproduced. Learning can be improved by giving the learner a definite idea of the end sought by learning and the advantage that will come to him from possessing the knowledge. Thorndike insists that the learner must recognize the activity as being relevant to his needs.

Knowledge of one's record is also a factor in progress. Arps, in his experiments with the Bergstrom ergograph, demonstrated that in the case of work with knowledge of the score, the results were 18% better than in work with no knowledge of the score. It is just as true that knowledge of errors is a factor in progress. Thorndike has shown this to be true in the case of spoken and written language. Furthermore, if one knows when learning, that the material is to be reproduced, the learning is made more effective. What difference does it make in later reproduction whether a person knows or does not know while reading a list of words that he will be asked to reproduce the words? Peterson[27] found in several experiments that learning was greatly facilitated when the subjects knew that they would be called upon to reproduce. Pre-knowledge of what was to be required proved to be an effective stimulus.

In order to create interest in the learner many plans have been devised. Chapman and Feder[28] report an interesting experiment, in which credits and prizes were employed as incentives. Thirty-six boys and girls in Grade 5A in the Cleveland Observation School were given the Simple Addition Test of Thorndike, the Cancellation Test used by Woodworth, and the Digit Symbol Test, where figures are substituted for numerals. Certain credits were given each day as a spur to improvement. Prizes were given at the end of the ten practice periods to the 50% in Group A which had gained the greatest number of stars for efficiency and improvement. The experiment proved that incentive exerted a considerable effect on the amount of the product. Only in the cancellation test did the non-motivated group improve to the same extent as the motivated. "When we consider that the ordinary school work demands continuous effort over long periods of time, with but little zest of novelty, it may be surmised that the necessity of motivating the work becomes increasingly great."[29]

Dearborn[30] believes that one of the best ways to develop interest in a subject is through collateral reading.

25 Thomas: "Training for Effective Study," p. 70.
26 Op. cit., p. 61 ff.
27 "The Effect of Attitude on Immediate and Delayed Repetition," Jour. Ed. Psy., VII, 1916, 523-532.
28 "The Effect of External Incentives on Improvement," Jour. Ed. Psy., VIII, 1917, 469-474.
29 Chapman and Feder: Op. cit., p. 474.
30 Op. cit., p. 2.

Myers[31] (along with many others) suggests rivalry as a motivating means of arousing interest. Graphs of individual improvement may be used to stimulate rivalry. It is self rivalry that is mainly to be stimulated, and one should seek rivalry in improvement rather than in achievement.

Perhaps something should be said about the importance of making interest pleasant, a thing which Thorndike consistently advocates. "Pleasant interest is more economical as a motor force for attention. If pleased as well as interested, a person can do several times as much work, both mental and muscular, without fatigue, as is possible if the work is accompanied by fear or disgust. This is one strong reason why we should make our pupils like their work."[32]

Waples[33] believes that there is much promise for the future in standardizing methods of motivation. "Methods of motivating the learning process may be standardized to the degree in which the typical interests of various pupils are uniform at approximately the same stage of development. Such uniformity may be assisted by controlling environmental conditions and by grouping with respect to abilities determined by performance tests."

From what has been noted in this brief, fragmentary discussion of interest and motivation, we are perhaps able to recognize just what the problem in teaching really is. Thorndike states it very cogently in the following words: "The problem of interest in teaching is not whether children shall learn with interest or without it; they never learn without it; but what kind of interest it shall be; from what the interest shall be derived."[34] All education must start with the interests of the individual, and it must broaden these interests in order to develop attention to tasks that are not naturally interesting. So important is interest to the whole process of learning, that we are almost forced to say with Jacob Gould Schurman: *"Interest is the greatest word in education."*

As has been previously intimated, one of the patent needs is more thorough experimental work on the problems of interest, motivation, effort, and kindred topics. Some few have escaped from the bondage of psychological traditionalism, where armchair observations are deemed sufficient, but the greater number of us have been content to remain in Egypt, the land of our fathers. We need more men of the Moses type, genuine experimentalists, who can lead us into new discoveries. Then, as experimental knowledge increases, as psychology becomes more of a natural science, as new theories come to light, we should put forth sufficient effort to make sure that our practice in educational management and economy keeps pace with our psychological theory.

31 Myers: "The Learner and His Attitude," p. 104 ff.
32 Magnusson: "Psychology As Applied to Education," p. 83.
33 "An Approach to the Synthetic Study of Interest in Attention" (University of Pennsylvania thesis).
34 "Principles of Teaching," p. 54.

WITH THE EDITOR

HERBERT BLAIR

ABILITY GROUPING.

Few subjects in the administration and organization of an elementary school are so persistent as "the classification and grouping of pupils." In 1900 a Bureau of Education bulletin with the above title described in eulogistic fashion what was being done in some thirty or more school systems. Ten years later a letter asking the then Superintendent of Schools regarding the permanent results of such classification, brought from most of them the reply that they had never heard that any previous Superintendent had made a special study of classification, certainly there was no evidence of it in the school system when they themselves began to try to bring order out of chaos. The few who did know of the previous efforts condemned them in no uncertain terms as being unwise, unsound, and harmful to all concerned.

It seems safe, however, to draw the general conclusion that each special plan of classification, the Batavia, Cambridge, Portland, Pueblo, Gary, and all the others, *under the superintendent or principal who introduced the plan,* did meet a felt need at the time it was introduced. The criticism developed later, when the plan was considered more important than the child it was designed to serve.

Ability grouping, carried out to its fullest extent, places together children of like chronological age, like intelligence quotient, like social environment, like attitudes toward study, like achievement quotients, and likeness in all other traits and environments. Of course this would limit each group to a single individual.

Non-ability grouping, carried to the same extreme, would bring back to each group the classification of the rural school, where pupils of widely different ages, traits, abilities and subject interests, try to work and play together. Surely the most severe critics of ability grouping are not advocating a return to this.

Probably the most disheartening factor about the whole discussion is that it still remains in the field of discussion. Surely we might have measured, objective evidence regarding the advantages, or disadvantages, of ability grouping if the exponents of either plan were willing to submit their theories to the test. As it is now, equally prominent members of the same faculty appear upon the platform at educational meetings to argue for, or to argue against. homogeneous grouping.

In a conference between representatives of the fur workers' union and those representing the manufacturers' association, a discussion started regarding the wage of the fur cutter. The manufacturers, pointing to the high weekly wage, claimed he was over-paid. The union, pointing to the seasonable character of the industry, said he was underpaid. A bystander suggested that they examine the books of several of the manufacturers to find out just how much the cutters did receive, and was surprised to have both sides laugh at the suggestion. "Why," said one, "if we did that we would know and then we wouldn't have anything to argue about."

EVALUATING AN IDEAL.

Theories have always been in advance of practice; ideals are always ahead of accomplishment. Both theories and ideals must be practical in order to be of much service. The ostrich egg placed in the hen house as a suggestion of what was expected, makes a good story, but did not increase the size of the hens' eggs a particle. Suggestions to a com-

munity as to what might happen if they had ideal school buildings, ideal courses of study, ideal teachers, ideal classification of students (ideal in each case being the pet theory of the one making the suggestion) fall on deaf ears usually because they sound impractical to the one who pays the cost of putting the theory into operation.

The tax-payer, however, is usually a good sport. His motto seems to be, "I'll try anything once that looks like an improvement upon what we already have, provided you can tell me in advance how much it will cost." But he is unwilling to try out many of these theories at the one time. He has never heard of the "single variable" basis of measuring, but his logic is sound in wanting to try but one thing at a time, to measure its value in the light of its cost and its effect upon the school system as a whole.

This method of introducing new theories is exasperatingly slow to the idealist. It wastes so much time. It indicates such lack of vision. Still we are making progress. Take as an illustration the classroom teacher in the elementary school. A generation ago she entered the state normal school from the eighth grade, took a three or four year course, and was given a life certificate to teach, or, simply by taking an examination offered by the County Superintendent, she short-circuited the normal school entirely.

Today in many states the normals have become teachers colleges, the elementary teachers have four years of training beyond the high school, they crowd the extension courses of our colleges, the education courses in our summer schools were never so popular and in spite of threatened cuts and actually accomplished reductions here and there, the elementary teacher is receiving two and three times as much as was paid in the gay nineties.

In spite of this greatly increased academic training and financial compensation, many teachers still fall short of being "explorers in the realm of human values," to use Professor Zirbes' striking phrase. Many are still being selected for employment because they live in the town, have friends on the school board, or have political influence. They do just enough work to keep from being dismissed and concentrate their exploration of human values upon individuals not even remotely connected with the pupils in the class-room.

If we measure elementary education from where we are now to where we might have been, provided our own special ideals had been put into practice, there is much room for discouragement. We are still so far away from our goal. If we measure from the same point of beginning but in the opposite direction the figures are not so depressing. We have made some progress. Perhaps in the not remote future some of our institutions will offer a course in administration for Educational theorists, to show them how to evaluate their own theories before attempting to have them put into practice.

YOUR SCHOOLS AND MINE

ROY C. WOODS, PH. D.
PROFESSOR OF EDUCATION, MARSHALL COLLEGE
HUNTINGTON, WEST VIRGINIA

[In this department Dr. Woods will answer to the best of his ability any or all questions on educational topics that are addressed either to him at the address above, or to EDUCATION. *It is to be understood that the writer alone is responsible for the answers given.—H. B.]*

What suggestions can you make to improve my work in spelling drill?

Do not emphasize drill in spelling until after the proper spelling or response has been studied. This will avoid habituating the incorrect response. Focus the pupil's attention to the correct spelling and then drill until habituated. Continue this drill at frequent enough intervals to fix the response, thus guarding against lapses of memory. Short drill periods are better than long ones. Motivate the work by showing the pupil he is making progress as compared with his past record, his class average, or the norms for the list of words used. (See Garrison: The Psychology of the Elementary School Subjects, p. 374 ff.; Wheat: The Psychology of the Elementary School, p. 288 ff., or Reed: Psychology of the Elementary School Subjects, p. 224 ff.)

What is the most effective way to teach spelling?

I do not know. It is surprising how many "best ways" exist. I am inclined to think that the way the teacher likes best will usually be her "best way." However, the three references given in the question you asked above will give you some valuable suggestions and after reading them you will be enabled to adapt the "best methods" to the class which you have in mind. Personally I am partial to the "pre-test method." It at least puts the emphasis upon the words that were difficult for the particular pupil.

We have repeated some of our intelligence tests on pupils who were tested two years ago and find that some have raised their grades. Does that mean that they have increased their intelligence? I thought the I.Q. was supposed to be a constant figure.

In general the I.Q. is a constant figure. However, Baldwin has shown that variations may and often do occur. In a debate the writer heard between Dr. Baldwin of the Iowa Child Welfare Station and Dr. Ruch, now of the University of California, on that subject, these facts were advanced by Dr. Baldwin and were explained by Dr. Ruch by saying that he would not deny that such changes happened but that they probably were caused by inaccuracies in the measuring too. In your case you have at least two other probable sources: The tests were probably group tests, which are admittedly less accurate, and you were using less skilled testers to administer the test. Unless there were wide discrepancies I should ignore the

problem. If the discrepancy is large repeat by giving an individual test.

In teaching arithmetic what percent of accuracy should be demanded? Which is more important to stress, speed or accuracy?

To know the method without being able to use it will profit the child but little. He should be drilled until he reaches approximate perfection in the simpler operations of the elementary school arithmetic. Stress the accuracy and then the speed. True the accuracy is the chief concern, yet the slow pupil will find the doors of opportunity closed to him in most occupations if he is unduly slow even though he be accurate. (See Thorndike: The Relation between Speed and Accuracy in Addition, Journal of Applied Psychology, 5; 537 or Starch: Educational Psychology, p. 483 ff.)

A boy here has objected to the grades which I assigned him and has appealed to the Board of Education. What shall I do?

Assuming that you can defend your grade which you assigned him against such statements as unfairness or partiality, I should do nothing until called upon by the Board. It should never have been allowed to reach them in the first place and they should now follow the policy of assuming that your grade is correct and demand proof from the boy of his accusations. Of course any patron has a right to appeal to the Board for decisions on school matters and all you can do is defend. The assumption in law would be that you are right since he is bringing the accusation. My guess is that you will not be seriously embarrassed by this affair.

A boy's overcoat was taken from his locker which had been left unlocked. The parents have sent a bill to the school for payment. Do you consider that we are liable in law?

No. The locker was left unlocked and that alone should clear you, assuming of course that due precautions were taken to guard against thieves and to make recovery. I doubt if the case would have been altered any had the boy had his locker locked but of course that is a point of law and can better be solved or answered by your school attorney, or superintendent who is better acquainted with the school laws.

What type of problems am I justified in sending to the principal?

Attempt to settle all cases yourself. This will strengthen you professionally and will raise your standing with the school authorities. In case of incorrigible pupils consult with the principal and follow his advice. He will take over the serious cases. There are a few cases which I feel you would be justified in taking to the principal direct. If the child is from a home so influential as likely to affect the entire school then the principal should handle it directly and not second hand. One other type exists. If you are a young teacher, small of stature, the large, over-sized bully of the upper grades may better be handled by the principal. Some cases of morality are extremely embarrassing to the younger teachers. It ought not be so but if it is the principal can handle the case much better. (See Bagley: School Discipline, p. 209 ff.; Morehouse: The Discipline of the School, p. 285 ff.; Smith: Constructive School Discipline, is an excellent book.)

DEPARTMENT OF BOOK REVIEWS

The Nature and Treatment of Stammering. By *E. J. Boome*, M.B., Ch.B., D.P., T.D., Divisional Medical Officer, London County Council, and *M. A. Richardson*, Senior Assistant, L. C. C. Remedial Courses for Stammering Children. Published by E. P. Dutton & Co., Inc., New York. 1932.

The authors, who base their book upon personal experience and ten years of research and practical application of their method of treating stammerers, believe that much of the faulty treatment of stammering and erroneous theories of the past concerning it are due to the mistake of listing it among speech defects rather than placing it under some such heading as "nervous disorders," for its original cause is psychical. They incline to the view that the child inherits the peculiar neuropathic tendencies which predispose him to stammering, and consider the primary cause a constitutional one. Such environmental factors as shock, fright, illness, or strain, are usually determining elements which weaken the patient's power of physical and psychical resistance, and reveal the latent tendency. These are termed secondary causes by the writers.

They present the following clear picture of the characteristics of the stammerer. On the physical side he shows a strained and anxious facial expression, for he is never free of the fear that he may break down in speech. He is always extremely tense, and shows a rigidity which may extend from the speech muscles down through the extremities. His respiration is jerky, owing to the inribitory action of the chest muscles, and respiration may be held up several or more seconds when he tries to speak. Spasmodic movements or tics, which the writers liken to a substitution stammer, may accompany his attempts to speak. On the mental side, the stammerer shows a strong tendency to excitability which aggravates his speech difficulty. He is easily elated or downcast, sensitive to ridicule, continually worried about his speech difficulty, overwhelmed by a feeling of inferiority, and is often morbidly introverted.

Environment factors are blamed by the writers for often bringing out and prolonging the defect. They blame the overcritical and fussy parent, the indifferent parent, the nervous parent, and any situation at home, at school, or elsewhere which tends to place the stammerer in a condition of nervous or mental strain. of the difficulty on its appearance, and preventive treatment by right handling of the difficulty on its appearance, and cite the following as danger periods: the learning-to-talk stage, when a purely physiological stammer may show for a time because of lack of muscular co-ordination of the speech mechanism; the late period of speech development during the fourth or fifth year, a time coincident with the beginning of school life; and the period of second dentition. Puberty is cited as a time of serious or violent relapse into the difficulty for the stammerer.

In a discussion of treatment, the writers stress suggestion, relaxation, and rhythmic co-ordination as the foundations of their method. They disapprove of speech training, and articulation exercises, devices and tricks, and voice production. They maintain that once the stammerer has learned to relax, tension disappears and the voice becomes natural. They object to the use of breath control methods, for they assert that the majority of stammerers inspire readily, but owing to the rigidity and muscular spasm, are unable to expire evenly. They believe that breathing would become automatic through complete relaxation. A thorough knowlege of each case from the physical, psychological, and environmental points of view is deemed essential for the successful application of their methods. The treatment, which has relaxation as its basis, is begun with an effort to get the patient to the point where he acquires a saturated feeling of ease by means of complete muscular relaxation. When this feeling has permeated both mind and body, the pa-

tient may endeavor to speak in an easy and phlegmatic manner. Each success achieved is used to convince him that he may repeat it by means of complete relaxation. Appelt's suggestion formula, "When my feeling of ease is intense enough, the thought flows over my lips of itself," is suggested as the main theme of the patient's regular autosuggestion. Rhythmic movement is used in an effort to restore regular muscular co-ordination. A more simplified method of the treatment is arranged for younger people, and the writers admit that results are slower of achievement. A follow-up study of cases treated at their clinic in London revealed that the majority of them were adjusted socially after treatment. — ELIZABETH I. BALLARD, Department of Speech Correction, Providence, Rhode Island.

Paraguay, Its Cultural Heritage, Social Conditions, and Educational Problems. By *Arthur Elwood Elliott*, Ph.D., Teachers College, Columbia University. Contributions to Education, No. 473. 196 pages. Price $2.50. Bureau of Publications, Teachers College, Columbia University.

To most Americans, Paraguay is simply "a geographical expression." They vaguely remember that it was mentioned in the geography text-books as being an interior and out-of-the-way country in South America.

Dr. Elliott states in his opening sentence that he has made a study of missionary education. Missionary activities and education are generally associated with other continents than South America. Why missionary education in Paraguay? The author states: "The present attitude in respect to such education is that the Christian Church should help those who alone are unable adequately to solve their social and religious problems." Dr. Elliott shows that alone and unaided Paraguay cannot solve her social and religious problems. In demonstrating this, he has investigated such things as: (1) the population problem; (2) health and sanitation; (3) economic conditions; (4) the status and activities of religious bodies; (5) public education, and (6) private and religious education. Dr. Elliott has attacked his problem from the standpoint of a scholar and a trained investigator. He has not attempted "to prove" any preconceived theories.

Paraguay is a country of tomorrow rather than of today or yesterday. She is a country rich in resources but backward and undeveloped. Her transportation and communication are poor and inadequate. She is woefully lacking in medical and sanitary facilities. Malaria, hookworm disease, typhoid, dysentery, goiter, and tuberculosis are widespread. Leprosy and the social diseases are not uncommon. The greatest economic asset of Paraguay at present is its agriculture. Even in this the methods are wasteful and antiquated. In recent years, however, there have been some importations of modern agricultural machinery. Cotton, tobacco, maize, yerba mate, sugar, and oranges are amongst the most valuable agricultural products. Live stock raising is an important activity. Quebracho exploitation—for it is nothing else—is the main forest industry.

In religion the country is preponderately Roman Catholic. From the standpoint of meeting the spiritual and social needs of the people there are too few trained priests. While the constitution states that the Roman Catholic religion is the religion of the Republic, it also gives free right to exercise any other religion in the territory of the Republic. Various Protestant denominations are engaged in religious, educational, and social activities.

Paraguay is very backward in all that pertains to education. The thinking leaders of Paraguay are aware of these deficiencies and are desirous of doing something to remedy conditions. However, they are hindered by the lack of finances, and by the apathy on the part of the masses. Teachers are deficient in training and professional standards. The best schools in Paraguay are private—religious and non-religious. Without these schools Paraguay's education would be even more chaotic than it now is.

Dr. Elliott's book contains a good appendix and a most excellent bibliography.

The book is an interesting contribution to our knowledge of Paraguay and is worthy of careful study.—FRANKLIN C. ROBERTS, Boston University.

NEW EDUCATIONAL BOOKS

We acknowledge receipt of the following publications of interest to the readers of EDUCATION. Mention here does not preclude review in this or subsequent numbers of EDUCATION.

Heroes of the American Revolution. By *Fletcher Melvin Green*, Ph. D., Associate Professor of History in the University of North Carolina. The University of North Carolina Extension Bulletin, Jan., 1932. 50c.

The Enrichment of the English Curriculum. By *R. L. Lyman*, Professor of the Teaching of English, The University of Chicago. 1931. The University of Chicago. 250 pp. $2.00.

Steps Upward in Personality. By *Laura Haddock*, M. A., Student Counselor, Detroit Public Schools, Detroit, Michigan. The Educational Executives' Series. Professional and Technical Press. 1931. 357 pp., cloth. $3.25.

Pathfinders by Land and Sea. By *Elmer Green*. Illustrated. 1932. 170 pp. The World Book Company. $.72.

The Shepherd English Test, A Placement Test for College Freshmen, Forms A and B. By *J. W. Shepherd*, Ph. D., Director of the Department of Educational Cooperation and Research, Extension Division, University of Oklahoma. Houghton Mifflin Company.

The Henmon-Nelson Tests on Mental Ability, Grades 3-8 and 7-12, Forms A and B. By *V. A. C. Henmon*, Ph. D., Head of the Department of Psychology, University of Wisconsin, and *M. J. Nelson*, Ph. D., Head of the Department of Education, Iowa State Teachers College, Cedar Falls, Iowa. Houghton Mifflin Company.

Mathematical Nuts. By *Samuel I. Jones*, formerly Professor of Mathematics in David Lipscomb College. 1932. Published by the author, Life and Casualty Building, Nashville, Tenn. 340 pp. $3.50.

Modern Social History of the United States. By *James J. Reynolds*, District Superintendent, New York City Schools, and *Grace A. Taylor*, Teacher of History, New York City Schools. 1932. Noble and Noble. 379 pp., cloth. $1.32.

French Liberalism and Education in the Eighteenth Century. The writings of La Chalotais, Turgot, Diderot, and Condorcet on National Education. Translated and edited by *F. de la Fontainerie*, Assistant Professor of Romance Languages, University of Pennsylvania. 1932. McGraw-Hill Book Company, Inc. 385 pp., cloth. $2.25.

Living Geography, Book I, How Countries Differ. By *Ellsworth Huntington*, Yale University, *C. Beverley Benson*, formerly of Cornell and Purdue Universities, and *Frank M. McMurray*, Teachers College, Columbia University. 1932. The Macmillan Company. 346 + 28 pp. $1.20.

Living Geography, Book II, Why Countries Differ. By *Ellsworth Huntington*, Yale University, *C. Beverley Benson*, formerly of Cornell and Purdue Universities, and *Frank M. McMurray*, Teachers College, Columbia University. 1932. The Macmillan Company. 506 pp. and 38 plates. $1.60.

We Create a History Room. By *Margaret Truesdale Gibbs.* Teachers' Lesson Unit Series No. 23. 9 pp., paper. Bureau of Publications, Teachers College, Columbia University.

Problems in Philosophy of Education. By *Robert Bruce Raup*, Ph. D., Associate Professor of Education, Teachers College. Syllabus No. 14 (revised). Bureau of Publications, Teachers College, Columbia University.

A Spy for General Washington, by *Henry Fisk Carlton,* and **Washington Crossing the Delaware,** by *Henry Fisk Carlton.* Radio Plays from Dramatic Hours in Revolutionary History Series, edited by Claire T. Zyve, Ph. D. Bureau of Publications, Teachers College, Columbia, University. Each 38 pp., paper. 1932.

The Teaching of Algebra, the Seventh Yearbook of the National Council of Teachers of Mathematics. 170 pp., cloth. 1932. Bureau of Publications, Teachers College, Columbia University.

The Acceptable Uses of Achievement Tests, a Manual for Test Users. By *Paul R. Mort,* Professor of Education, Teachers College, and *Arthur I. Gates,* Professor of Education, Teachers College. 85 pp., cloth. 1932. Bureau of Publications, Teachers College, Columbia University.

The Algebra of Omar Khayyam. By *Daoud S. Kasir,* Ph. D. 126 pp., cloth. Contributions to Education Series No. 385. Bureau of Publications, Teachers College, Columbia University. 1931.

The Quest for Vocational Adjustment in the Profession of Education. By *Walter E. Hager,* Ph. D. 86 pp., cloth. $1.50. Contributions to Education Series No. 491. Bureau of Publications, Teachers College, Columbia University.

The Scholastic Behavior of a Selected Group of Undergraduate Home Economics Students. By *Ruth Connor,* Ph.D. 71 pp., cloth. $1.50. Contributions to Education Series No. 497, Bureau of Publications, Teachers College, Columbia University.

The Evolution of the American Teachers College. By *Jessie M. Pangburn,* Ph. D. 140 pp., cloth. $1.50. Contributions to Education, No. 500. Bureau of Publications, Teachers College, Columbia University.

Educational Service: Its Functions and Possibilities. By *Howard David Langford,* Ph. D. 212 pp., cloth. $2.00. Contributions to Education No. 509, Bureau of Publications, Teachers College, Columbia University.

A Study of the Curricula of Seven Selected Women's Colleges of the Southern States. By *Elizabeth Barber Young,* Ph. D. 220 pp., cloth. $2.00. Contributions to Education Series No. 511, Bureau of Publications, Teachers College, Columbia University.

Motor Abilities of Deaf Children. By *John A. Long,* Ph. D. 67 pp., cloth. $1.50. Bureau of Publications, Teachers College, Columbia University.

Words Confused and Misused. By *Maurice H. Weseen,* Associate Professor of English in the University of Nebraska. 310 pp., cloth. $2.00. 1932. Thomas Y. Crowell Company.

Business Letters — Functions, Principles, Composition. By *Ralph Leslie Johns,* M. A., Ed. M., Glendale Junior College, Glendale, Calif. 347 pp., cloth. 1932. The Gregg Publishing Company.

Evaluation and Improvement of Teaching. By *Charles W. Knudsen,* Professor of Secondary Education, George Peabody College for Teachers. 538 pp. 1932. $2.50. Doubleday, Doran & Company, Inc.

The Story of Uncle Sam's Money. By *Walter O. Woods,* Treasurer of the United States. 177 pp., cloth, illustrated. 1932. The Gregg Publishing Co.

Interrelations in the Behavior of Young Children. By *Ruth E. Arrington,* Ph. D. 156 pp., cloth. 1932. Bureau of Publications, Teachers College, Columbia University.

Teachers' Lesson Unit Series—No. 29, Shoes; No. 31, Round and Round the World; No. 32, Ancient Athens Rebuilt and Relived; No. 33, The Hopi Indians; No. 34, Saving. Bureau of Publications, Teachers College, Columbia University.